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MEDIESE SUPERINTENDENTE OF LEKE-ADMINISTRATEURS VIR ALGEMENE HOSPITALE*

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In die lig van huidige neigings en verwikkelinge in die hospitaaladministrasie in die Unie, voel ek dat dit noodsaaklik geword het om ons bestaan as mediese superintendente in die weegskaal te plaas en in oënskou te neem. Verlede jaar het daar ontsteltenis en onrustigheid geheers oor die moontlikheid dat leke aangestel kon word in betrekkings wat tans gevul word deur geneeshere as superintendente van hospitale. Juis om hierdie rede het ek op 'n onlangse studietoer deur Groot-Brittanje, noukeurige aandag bestee aan hierdie saak. Graag wil ek dan ook my opregte dank en waardering uitspreek teenoor alle amptenare van die Ministerie van Gesondheid van Engeland en Skotland, wat hierdie studie moontlik gemaak het, deur openhartige besprekings te voer oor hierdie ingewikkelde en omvattende onderwerp.

U is bewus daarvan dat die mediese superintendente in Engeland feitlik van die toneel verdwyn het, en dat hulle vervang is deur leke-administratiewe beamptes, wat ek vir die doel van hierdie bespreking, administrateurs sal noem. Aangesien hierdie verwikkelinge vanaf 'n juiste datum in Engeland begin het, wil ek trag om aan u die beeld te skilder voor 1948, en na 1948 met die instelling van 'n nasionale gesondheidskema in Groot Brittanje. Die hospitale wat onder bespreking is, is algemene hospitale wat nie direk verbonde is aan mediese skole nie.

Voor die Instelling van die Nasionale Gesondheidsdiens in 1948

In Engeland was daar twee tradisionele soorte hospitaaladministrasie. In die hospitale wat bestaan het uit vrywillige donasies, was 'n hospitaalraad in bevel, met 'n leke-administrateur in 'n voltydse hoedanigheid, om die raad se bevele en wense uit te voer. Enige kliniese sake is vir bespreking verwys na 'n mediese advieskomitee, en hulle aanbevelings is oorgedra aan die hospitaalraad.

In die munisipale hospitale was die algemene gebruik om 'n mediese superintendent aan te stel. Hy het administratiewe beheer oor die hospitaal gehad, en was ook in bevel van alle bedde—afgesien van die feit dat ander spesialiteite kliniese verantwoordelikhede gehad het. Alhoewel sy dienste en verantwoordelikhede nie duidelik omskryf was nie, het hy beheer uitgeoefen oor die sekretaris en sy personeel, die matrone en verplegingspersoneel, en selfs oor elke ambagsman. Alhoewel die superintendente ook kliniese werk gedoen het, het die omvang daarvan gewissel van hospitaal tot hospitaal, ooreenkomstig die superintendent se belange en bevoegdheid.

Uit betroubare verslae is dit dan ook duidelik dat sommige superintendente van hulle magte misbruik gemaak het deur hulle te bemoei met die behandeling van pasiënte, en sodoende te oortree op die gebied van 'n meer bevoegde klinikus. Verder het die verstandhouding ook gegeld dat die mediese superintendent die volle seggenskap het in enige saak rakende daardie hospitaal. In Skotlandse hospitale was dit duidelik neergelê dat mediese superintendente bloot administratiewe beamptes was, alhoewel hulle nog verantwoordelik was vir die welsyn van alle pasiënte. Met ander woorde, hulle het nie kliniese werk verrig nie. Die superintendent is beskou as die hoof van die hospitaal en alhoewel die sekretaris en matrone feitlik volle beheer oor hulle personeel gehad het, was hulle nogtans verantwoordelik aan hom. Die sekretaris, matrone en ingenieur was dan ook raadgewers vir superintendente oor sake op hulle gebied, en terselfdertyd ook uitvoerende beamptes met heelwat magte. Hierdie toedrag van sake het meegebring dat die superintendent gefunksioneer het as 'n saambindende faktor van alle aktiwiteite in 'n hospitaal, maar terselfdertyd ook opgetree het as uitvoerende hoof met gesag.

Na die Instelling van die Nasionale Gesondheidsdiens in 1948

In Engeland is daar nou twee soorte beheerreëlings in hospitale.

Eerstens, is daar dié hospitale waar geen mediese beampte in beheer is nie, maar wel 'n leek in die persoon van die administrateur. Hy is die uitvoerende beampte van die hospitaal se bestuurraad. Sy pligte is om alle hospitaalaktiwiteite (uitgesluit kliniese sake), saam te snoer, en toe te sien dat alle afdelings van die hospitaal glad funksioneer. Hy word met advies bedien oor kliniese sake deur 'n mediese advieskomitee, waarvan die voorsitter die mondstuk is. Daar word gevind dat die administrateur en die voorsitter van die komitee daagliks moet beraadslag oor mediese aangeleenthede. Die buitepasiënte- en ongevalleafdelings, siek verpleegsters, en toesig oor junior voltydse mediese beamptes word oorgelaat aan een van die senior voltydse geneeshere.

Die tweede groep hospitale het 'n senior mediese beampte wat hoofsaaklik voltydse kliniese werk in die hospitaal doen, maar ook 'n klein gedeelte van sy tyd bestee aan toesighou oor die ongevalle- en buitepasiënteafdelings en verwante afdelings, soos byvoorbeeld fisio- en beroepsterapie. Funksioneel is hulle belangrikste rol waarskynlik om alledaagse probleme tussen mediese personeel en administratiewe beleid uit te pluis en te verduidelik.

In albei groepe hospitale word die beleid van gelyke drievoudige administrasie toegepas. Dit beteken dat die drie groepe, naamlik, lekebeamptes, mediese personeel en verpleegsters elkeen apart deur 'n hoof geadministreer word. Hierdie hoofde het gelyke status, en die administrateur van die hospitaal is die saambindende faktor wat die drie groepe as 'n span te laat funksioneer. Let wel, hy is nie die hoof van die drie groepe nie, maar net 'n snoerende faktor!

In Skotlandse hospitale word die tradisionele mediese superintendent nog behou, met 'n leke-sekretaris wat amper gelyke status het, maar nogtans ondergeskik is. Die super-

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intendent is nog hoof van alle afdelings, alhoewel hy van sy magte delegeer aan die sekretaris en matrone, volgens hul bekwaamheid en omstandighede. Dit wil sê, die administratiewe raamwerk is in baie opsigte ooreenstemmend met hospitale in die Unie.

Waarom het Skotse Hospitale hul Beleid Gehandhaaf en Waarom het Engelse Hospitale Geneig om Weg te Doen met Superintendente?

Hierdie vraag ontstaan onwillekeurig en die redes en verklarings is heel interessant. In Skotland se hospitale is die ou beleid om mediese superintendente aan te stel, gehandhaaf omdat geen konkrete redes gevind is vir hul afskaffing nie. Die ou stelsel het bevredigend gewerk, en omdat superintendente nie self kliniese werk onderneem het nie, was daar nie 'n gespanne gevoel tussen hulle en die geneeshere nie. Verder, die owerhede was nie te vinde vir veranderinge nie, tensy dit onteenseglik duidelik was dat 'n ander stelsel meer doeltreffend sou wees en radikale verbeteringe sou teweegbring. Die owerhede was nie bereid om te eksperimenteer en terselfdertyd antagonisme op te wek nie.

In Engeland se hospitale, soos reeds genoem, was die superintendent in absolute beheer van die lekebeamptes, mediese en verpleegingspersoneel. Boonop het hy volle seggenskap gehad oor pasiënte in die hospitaal en hul behandeling, selfs waar spesialiste die behandeling waarneem. Hierdie toestand het nadelige gevolge gehad! Die superintendent het nie die nodige kwalifikasies en bevoegdhede gehad om met spesialiste te redeneer oor fynere kliniese sake nie. In plaas daarvan dat die meer gesaghebbende bron se opinie gerespekteer word, is in sommige gevalle gebruik gemaak van die superintendent se magsposisie om 'n saak in sy guns te beslis. Natuurlik het so 'n dwase optrede die geneeshere geantagoniseer! Ook het die superintendent nie die praktiese ondervinding gehad om die sekretaris se werksmetodes te kritiseer nie, maar het van sy gesag gebruik gemaak om sy idees te laat uitvoer, somtyds maar bra onprakties. Hierdie optrede het geen vriend van sy sekretaris gemaak nie. Daar moet geensins afgelei word dat alle superintendente aan sulke dwase optrede skuldig was nie, maar ongelukkig het 'n gedeelte se onbedagsaamheid die hele groep geaffekteer.

Dus, deur die ongelukkige sameloop van omstandighede het die meer senior lede van die mediese personeel en die sekretarisse begin saamwerk, met 'n gemeenskaplike doel, naamlik, om ontslae te raak van die mediese superintendente. Hierin het hulle uitmuntend geslaag in Engeland. Hulle ywer is bekroon met veral twee belangrike beleidsveranderinge in 1948:

Eerstens, alle beheer oor bedde voorheen onder die mediese superintendente, is weggeneem en toegeken en verdeel onder indiwiduele spesialiste.

Tweedens is daar weggedoen met die amp van mediese superintendent. In die 1930-iger jare was hul salarisse ongeveer £1,500 per jaar en *van* die hoogsbesoldigste poste in die gesondheidsdiens. In 1948 is besluit dat waar 'n superintendent alleen administratiewe pligte waargeneem het, hy in die toekoms op dieselfde salarisskaal as 'n senior leke-administratiewe beampte geplaas word. Volgens amptelike verslae van die Ministerie, het 'n baie klein persentasie oud-superintendente finansiële verliese gely, maar die sielkundige skade berokken deur afbreuk van status en 'n gevoel van oortolligheid, was onberekenbaar. Ook is enige finansiële aansporing om 'n sukses te maak van administratiewe werk geheel en al verwyder.

Die ander groep superintendente wat hul meesal besig gehou met met kliniese werk, is opgeneem in poste van voltydse mediese beamptes en volgens daardie salarisskaal besoldig. Aangesien die meeste van hierdie superintendente, uit die aard van hul amp, nie absoluut op hoogte was met gevorderde kliniese werk nie, is baie min van hulle opgeneem in senior poste van mediese beamptes. Die uiteinde van die saak was dat superintendente op 'n vernederende manier van die toneel verdwyn het.

Nou het sake tot 'n interessante punt gevorder. Die mediese beamptes het in hul strewe onder 'n wanindruk verkeer, dat, sodra die superintendente van die toneel verwyder was, hulle 'n magsposisie sou verkry en dat hulle die leke-sekretaris dan sou kon gebied om hul eie begeertes en wense uit te voer. 'n Baie kort rukkie lank het dit geslaag, maar onverwags vinnig het hierdie administrateurs gesaghebbende figure geword. Die mediese personeel moes nou hul vertoë en versoeke tot hom rig, aangesien hy geleidelik groot uitvoerende magte verkry het.

'n Verdere verwikkeling was dat waar geneeshere voorheen vrye toegang tot die mediese superintendente gehad het om probleme te bespreek, hulle nou deur neergelegde amptelike kanale hulle klagtes moes stuur. Hierdie klagtes is dan op verskeie komitees bespreek en besleg. Die persoonlike verhouding tussen geneeshere en superintendente het verdwyn, en 'n omslagtige formele stelsel het die plek daarvan ingeneem.

HUIDIGE HOSPITAALADMINISTRASIE IN ENGELAND

Die beleid wat sedert 1949 gevolg is, het onverwagte probleme meegebring. Dit is onvermydelik dat, hoe deeglik reëlings ook al getref word vir gedurige samesprekings tussen die mediese advieskomitee en die administrateur, laasgenoemde al meer en meer verantwoordelikheid vir mediese sake moet dra. Omdat mediese aangeleenthede so 'n groot en integrale deel van hospitaaladministrasie uitmaak, moes daar 'n uitgebreide en omslagtige komiteestelsel formuleer word om mediese sake te behartig. Hierdie nimmereindigende reeks komiteevergaderings tref die besoeker onmiddellik en, alhoewel dit seker 'n demokratiese stelsel is, werk dit nie oortuigend, vinnig, prakties of doeltreffend nie. Hierdie stelling is deur verskeie geneeshere gemaak, en sommige meen dat dit in menige gevalle nie die moeite werd is nie. Uit die aard van hulle werk moet geneeshere behendig, vinnig en beslis optree, en die lang uitgerekte besprekings oor relatiewe onbenullige sake is teenstrydig met die aard van die medici.

Die gelyke drievoudige vorm van hospitaaladministrasie het ook sy probleme. Teoreties klink dit ideaal dat die leke, mediese- en verpleegingsafdelings gelyke status het en as 'n span saamwerk met die administrateur wat bloot as 'n bindende faktor optree. Prakties word gevind dat 'n sterk persoonlikheid onder die drie hoofde uiteindelik die leiding sal neem. Hierdie menslike element sal altyd teenwoordig wees. 'n Bindende faktor met gelyke status is nie prakties doeltreffend nie, en 'n duidelik omskrewe gesaghebbende faktor sal meer bevredigend wees. Die hoof van die drie afdelings by wie hierdie gesag geplaas moet word, sal ongetwyfeld die hoof van die mediese afdeling wees.

Die administrateurs is op die oog indrukwekkend besig en die hoeveelheid kennis oor mediese aangeleenthede waaroor sommige beskik, is verbasend goed. Dit is ook treffend dat sommige, ander huidige moeilike finansiële omstandighede, 'n goeie sin van besparing toon op mediese gebied,

byvoorbeeld met die aankoop van sterilisators, lampe en toerusting.

Daar word egter gevoel dat hierdie leke nie die nodige mediese opleiding en agtergrond het om by te dra tot die breër ontwikkeling, verbetering en uitbreiding van mediese dienste nie. Gevolglik ontstaan daar die behoefte vir die instelling van verteenwoordigende ontwikkelingskomitees op 'n streeksbasis. Hierdie leemte kan moontlik gevul word deur mediese superintendente.

Daar heers tans 'n gevoel van verbittering tussen administrateurs as hoofde van hospitale en mediese superintendente in Skotse hospitale. Vir die buitestaander kom dit veral voor dat die administrateur nie geredelik wil toegee dat 'n geneeshеer ook 'n goeie administratiewe beampte kan wees nie. Dit skyn asof sy mediese kwalifikasies hom diskwalifiseer in die oë van die administrateur. In teenstelling hiermee gee die meerderheid van superintendente toe dat 'n leek, bygestaan deur 'n goeie mediese advieskomitee, hom redelik goed van sy taak sal kwyt, alhoewel die stelsel en nie die persoon nie noodwendig omslagtigheid sal meebring. Die bevooroordeling aan die kant van die administrateurs is te verstane, aangesien hulle amp en status op die spel is.

'n Verdere tekortkoming in Engeland is die beheer van alle veranderinge en uitbreidings in hospitale deur afgeleë streeksbeheerrade. Hierdie rade moet die kleinste verandering omslagtig nagaan en goedkeur, en dit deur amptenare wat onbekend is met die betrokke hospitaal se omstandighede.

Die neiging in Engeland is om stadig terug te keer na die ou stelsel van mediese superintendente, alhoewel miskien nie net soos dit was nie. Dit is 'n geleidelike oorgang en die tekens daarvan is as volg: By sekere hospitale waar daar 'n spesialis is met 'n talent vir organisasie, word die betrokke persoon versoek om 'n deel van sy tyd te bestee aan algemene administratiewe pligte. As gevolg van sy status en talent vir administrasie, sal hy in alle waarskynlikheid leiding neem in die drievoudige administrasiestelsel. Dit sal meebring dat 'n groter deel van sy tyd aan administratiewe pligte bestee word, en die leemte vir 'n voltydse administratiewe mediese beampte sal daargestel word.

Waarom neem Engeland dan nie die Skotse beleid oor nie? Die subtiele, dog voelbare stramheid tussen Engeland en Skotland speel waarskynlik 'n rol. Oor hierdie stramheid kan die geskiedkundiges beter uitwei as wat ek dit kan doen.

'n Interessante brokkie nuus is dat die Edinburghse Mediese Skool dit tans oorweeg om 'n diplomagraad in administrasie van mediese dienste, in die lewe te roep. Die kursus sal een jaar duur, en sal alleen vir gegradueerdes (medies- of nie medies) oopgestel word. Die groot rede vir die ontstaan van die kursus is om die gaping tussen superintendente en leke-administrateurs te oorbrug. Vir nie-medies gegradueerdes sal sekere vakke, bv. elementêre medisyne, publieke gesondheid, ens. bygevoeg word. Dit is 'n onomstootbare bewys dat 'n mediese kennis en agtergrond wel belangrik is.

Die beleid om mediese superintendente aan te stel in bevel van inrigtings vir geestesversteurdes en hospitale vir aansteeklike siektes word algemeen aangeneem in Engeland en Skotland. Hier word hulle as onmisbaar beskou, en 'n groot getal van hulle is verantwoordelik vir 'n deel van die behandeling van die pasiënte.

In Skotlandse hospitale, is die superintendent nog hoof van die hospitaal, en hy delegeer van sy magte aan die sekretaris en die matrone. Kritiek wat teëgehou is, is dat die indeling van magte en pligte nie duidelik genoeg omskryf is nie en dat dit tot onenigheid kan lei. Daar was wel nie 'n onaangename gevoel tussen die superintendente en sekretarisse te bespeur nie. Alhoewel voorgenoemde kritiek in sekere gevalle gestaaf kan word, toon die feite dat hierdie swakheid nie aan die stelsel te wyte is nie, maar liewer aan swakhede in die ampsdraers self.

DIE VOOR- EN NADELE VAN MEDIESE SUPERINTENDENTE

A. *Voordele*

(i) Superintendente vorm 'n effektiewe skakel tussen geneeshere, verpleegingspersoneel, administratiewe beamptes, en ander afdelings van die mediese dienste. Hospitalisasie is 'n deel van 'n pasiënt se behandeling, en die superintendent moet toesien dat hierdie deel glad funksioneer, in aansluiting met die vorige behandeling en toekomstige na-behandeling.

(ii) Die mediese agtergrond van 'n superintendent stel hom in staat om besparing en doeltreffende administrasie te bevorder sonder dat die hoofdoel, naamlik, die pasiënt se welstand, uit die oog verloor word.

(iii) Die superintendent se kwalifikasie bekwaam hom om spoedig en doeltreffend sy werkkragte te mobiliseer en te herorganiseer om enige noodtoestand die hoof te bied.

(iv) Dit is essensieel om altyd iemand beskikbaar te hê om aan enige administratiewe en mediese probleme aandag te gee.

(v) 'n Superintendent, as 'n onpartydige persoon, het 'n breër begrip van uitbreiding van mediese dienste en toekomstige ontwikkeling. Daarom is hy meer geskik om tekortkominge op hul meriete te behandel. Hy kan dus enige oormatige entoesiasme in een afdeling inkort ten voordele van 'n ander afdeling waar uitbreiding belangriker is vir die pasiënt se welstand.

(vi) Die redelike en regverdige superintendent is meer aanneemlik vir die mediese personeel om mee te onderhandel, aangesien hulle (*a*) op gemeenskaplike intellektuele vlakke kan redeneer oor sake waarin albei opleiding gehad het, en (*b*) hy self geen voordeel trek uit behandeling van pasiënte nie.

B. *Nadele*

(i) In die teenwoordigheid van superintendente is die mediese personeel minder geneig om uiting te gee aan hulle idees vir enige verbetering in organisasie. Baie sal natuurlik afhang van die superintendent se persoonlikheid en sy gawe om openhartige omgang met sy personeel te bewerkstellig.

(ii) Te veel gesag word aan een persoon verleen en, deur sy positiewe of negatiewe optrede, kan 'n hospitaal ontwikkel of agteruitgaan. 'n Despotiese houding sal stroefheid veroorsaak, en enige superintendent wat só handel, sal moeilikheid vooruitloop. Hierdie persoonlike element sal natuurlik altyd teenwoordig wees. Dit kan uitgeskakel word deur superintendente sorgvuldig te kies en salarisse en vooruitsigte aantreklik genoeg te maak om bekwame en belangstellende kandidate te trek.

(iii) Dit is onwaarskynlik dat die ‚beste geneeshere' getrek sal word vir administratiewe werk. Hierdie term ‚beste geneeshere' is onlogies en relatief. 'n Goeie klinikus is nie noodwendig 'n goeie organiseerder en administratiewe beampte nie, en andersom is 'n goeie administratiewe geneeshеer nie noodwendig 'n swak klinikus nie. Administrasie is 'n rigting in medisyne, en sekere geneeshere sal 'n voorliefde daarvoor toon.

(iv) Die indiensneming van superintendente en sekretarisse in dieselfde hospitale kan tot verwarring lei by die indeling van

verantwoordelikhede en pligte. Indien hierdie bewering juis is, sal dit tot nadeel van die inrigting strek. Prakties word dit seldsaam teëgekom. Dit is vanselfsprekend dat die sekretaris as senior beampte, in alle sake in sy sfeer geken moet word. Soos reeds vermeld sal die fout hier by die ampsdraers lê en nie by die stelsel nie.

Menings van Superintendente

In 1954 is 'n memorandum opgestel deur senior mediese administratiewe beamptes van streeksrade in Engeland en aan die Ministerie van Gesondheid voorgelê. Hulle menings was as volg, en ek wil dit graag aanhaal soos dit oorspronklik verskyn het:

'The medical administrator is one who is in the best position to appreciate the needs and the resources of the hospital staff, the general practitioner and the general public, and even beyond the hospital walls there are many spheres of action in which he can take part for the good of the service. Human relationships need a sympathetic administration, and many of the problems involve a proper understanding of medical considerations. The lay administrator, by reason of his training and background, is not in the best position to undertake problems of medical administration.

'Clinicians have in the past expressed their fears of clinical direction, but medical administrators and clinicians can and do work side by side to their mutual advantage by providing a more efficient coordination, particularly where common services are concerned, and by avoiding any tendency for various specialities to become confined in watertight compartments. He could also further the cause of economy in many ways by wise spending throughout, particularly in relation to drugs, dressings, equipment, instruments and appliances'.

Ook in 1954 is 'n memorandum opgestel deur die 'Institute of Hospital Administrators', wie se lede grotendeels leke is. Ek haal weer aan uit hulle oorspronklike memorandum:

'The oversight and administration of a hospital of any size is a full-time job. If it is to be done adequately, it cannot be done as a side-line. If, therefore, the medical administrative officer takes an active part in clinical work, for which he has trained and qualified, either the administration must suffer or responsibility for it must be carried by someone else (without the proper authority).

'If placed in full administrative charge, the medical administrator seeks to exercise control over clinical practice, this is resented by senior medical colleagues with resultant friction and difficulties. If he does not exercise any such control, then the reason for his choice as administrative officer in charge in preference to a non-medical officer disappears.

'It must be questioned whether a medical administrator who is also undertaking clinical duties is likely to provide any more informed or balanced opinion on matters of medical policy, than other members of the senior medical staff. No less may it be doubted that he would in reality much better appreciate the needs of the various departments and decide in particular on a more balanced allocation of facilities. He is no less likely to be biased than other colleagues, and experience shows that he tends to be suspected by his colleagues of being influenced by his personal interest in a particular department.'

As die twee uittreksels vergelyk word, is dit duidelik dat redenasies van die leke-administrateurs negatief voorkom, en dat hulle aanval liewer teen die persoon van die mediese superintendent gemik is, as teen die stelsel. Die memorandum van die mediese beamptes is nie persoonlik of aanstootlik nie, maar gemik teen die onvermydelike leemte in die administrateur se opleiding vir hierdie soort betrekking.

GEVOLGTREKKINGS

In Engeland het hierdie netelige probleem in 'n ongelukkige tweestryd ontwikkel. Deur verskeie persone, en nie alleen deur geneeshere nie, is die mening uitgespreek dat die stelsel om leke-administrateurs aan te stel in plek van superintendente nie suksesvol is nie. Van beamptes in die Ministerie is ook verneem dat hierdie stelsel nie die verwagte vrugte afgewerp het nie. Ontevredenheid is te bespeur by geneeshere sowel as verplegingpersoneel. Die tekens is wel daar dat stappe aangewend word om die gemis aan mediese superintendente aan te vul.

Die gelyke drievoudige stelsel van bestuur van hospitale toon in praktyk dat 'n sterk gesaghebbende faktor nodig is om 'n positiewe beleid uit te voer en leiding te gee.

Die neiging van leke-administrateurs om hospitale as besighede te bestuur, is finansieel goed, maar die primêre doel, naamlik, die pasiënt se welsyn, word agterweë gelaat. Hoe bevoegd hierdie administrateurs ook al mag wees, is dit onaanneemlik dat hulle met hul verskeie komitees sake kan oplos sonder omslagtigheid.

Hierdie metode van organisasie en bestuur in Engelse hospitale is moontlik omdat mediese beamptes wat in diens van die Ministerie is, hoe senior hulle ook al mag wees, bereid moet wees om hulleself ten alle tye beskikbaar te stel vir komiteevergaderings, ens. Ook is daar so 'n groot aantal spesialiste beskikbaar vir al die hospitale in Engeland. Dit is ondenkbaar dat so 'n stelsel enigsins kan slaag of selfs gedeeltelik kan slaag in hospitale wat nie beskik oor 'n hele aantal spesialiste in elke vertakking van die medisyne nie.

Na noukeurige ondersoek van die getalle leke-administratiewe beamptes van alle grade in Engelse hospitale, wil dit voorkom of hulle getalle veel groter is as die vergelykende getalle in Skotse hospitale waar mediese superintendente in beheer is. Dit word toegeskryf aan die feit dat leke-administrateurs nou met meer mediese aangeleenthede belas is, en derhalwe nie genoeg tyd kan bestee aan sake wat suiwer in hulle sfeer val nie.

'n Punt van die allergrootste belang is dat die medekollegas in Engeland self seer sekerlik die liggaam was wat die meeste bygedra het tot die afskaffing van mediese superintendente. Indien die mediese professie hul steun aan die superintendente toegesê het soos in Skotland, sou hierdie toedrag van sake nie ontstaan het nie. Dit is voorwaar 'n tragedie dat die professie self hierdie belangrike vertakking van die medisyne verdoem het.

Maar wie is grotendeels te blameer? In die lig van feite en verslae is dit duidelik dat die superintendente grotendeels daartoe bygedra het deur nie in hulle handel en wandel te bewys dat hulle 'n positiewe en onmisbare skakel was in mediese dienste nie. Die mediese personeel kon geken word in alle sake, sonder afbreuk te doen aan die superintendent se gesag en status.

Ten slotte, Suid-Afrikaanse hospitale is nou op die vooraand van ongekende uitbreiding en vooruitgang. Die vraag is om *meer en beter dienste aan die pasiënt*. In hierdie ontwikkeling moet superintendente onteenseglik bewys dat hulle hul bestaan regverdig. Verder moet hulle bestaan gekonsolideer word, en dit kan alleen gedoen word deur kragdadige

en konstruktiewe optrede. 'n Rustige en passiewe bestaan sal fataal wees.

Na alles in oënskou geneem is, is dit my vaste oortuiging dat die beheer van hospitale deur mediese superintendente noodsaaklik is; dat hulle waardevolle bydraes kan lewer tot doeltreffende mediese dienste; en dat deur 'n fyn besigheidsin, energieke optrede, en versiende beplanning, hulle onmisbaar sal wees in Suid-Afrikaanse hospitaaldienste.

OPSOMMING

Die toestand van hospitaaladministrasie in Groot-Brittanje en Skotland voor die jaar 1948, toe die Nasionale Gesondheidsdienste deur die regering ingestel is, word geskets. Die stelsel soos in Engeland toegepas en die praktyk in Skotland word vergelyk.

Die huidige toestand wat ontwikkel het na 1948 word bespreek. Onder hierdie bedeling is daar twee stelsels. Eerstens is daar hospitale wat beheer word deur leke-administrateurs met talle adviesrade waardeur alle handeling vertraag word, en as gevolg waarvan baie spanninge heers tussen die verskillende groepe—medici, verplegings- en administratiewe personeel. Tweedens is daar hospitale wat beheer word deur 'n geneesheer-direkteur wat nie self kliniese werk doen nie en sodoende nie in botsing kom met kollegas nie, maar as koördinerende faktor die beste verkry vir die behandeling van pasiënte op alle terreine.

Die verskillende bestaande stelsels word geanaliseer, gekritiseer, die voordele en nadele bespreek, en vergelykings word getref. Die toestande word vergelyk met heersende toestande in Suid-Afrika en 'n logiese gevolgtrekking vir die beste beheer oor hospitale in Suid-Afrika word gemaak.

THE IMPORTANCE OF RADIOGRAPHIC EXAMINATION OF THE OESOPHAGUS AND ROUTINE CHEST RADIOGRAPHY AFTER OESOPHAGOSCOPY

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Oesophagoscopy is usually performed on an oesophagus suspected of being diseased. Owing to its taut suspension between points of fixation at both its upper and lower ends, the normal oesophagus is a particularly friable organ.[1] The pathological oesophagus, because of the disease process present, is even more friable, and particularly prone to rupture of its wall, with fistula formation.

Reports on the incidence of acquired oesophageal fistula place trauma due to instrumentation as the second commonest cause.[2] They suggest that the commonest is carcinoma of the oesophagus.[2] Another common group is said to be that of 'unknown aetiology'.[2]

In a recent series of 29 radiographically investigated cases of carcinoma of the oesophagus, in all of which the patient had undergone oesophagoscopy and some had had a Souttar's tube installed, no less than 13 presented with fistulae in one direction or another (i.e. 45% of those examined). Three (23%) of the fistulae could definitely be traced to instrumentation. In each of these 3 cases radiographic examination of the chest and oesophagus was performed both before and after oesophagoscopy. It is our contention that if all oesophagoscopy patients were subjected to both pre- and post-oesophagoscopic radiographic examinations the reported frequency of fistulae due to this instrumentation would be much higher. Furthermore, we feel that the statement that carcinoma of the oesophagus *per se* is the commonest cause of acquired oesophageal fistula should not be automatically accepted. Instrumentation, which is a routine investigation in these cases, is probably a much more frequent cause of fistula in a malignant oesophagus than is realized. We further suggest that the percentage of acquired fistulae of truly 'unknown aetiology' would be less if all possibility of instrumental causation was excluded.

It may be argued that a fistula produced by oesophagoscopy would present with signs and symptoms which would result in a quick request for contrast medium studies and chest radiography. On the contrary, of the 13 cases with fistula found in our series, only one presented with the symptoms of gangrenous mediastinitis or pneumonitis that are expected in such cases. This absence of signs and symptoms has been

Fig. 1. Case 1. Oesophago-pleural fistula. X-ray of chest.
Fig. 2. Case 1. Oesophago-pleural fistula.[1] See text.

Fig. 3. Case 2. Oesophago mediastinal fistula. See text.
Figs. 4 and 5. Case 3. Oesophago-mediastino-bronchial fistula.[1] See text.

noted by Abrams,[2] who stated that 'regurgitation, often attributed to nervousness, may be the only complaint'. He also wrote: 'Fistulae of acquired origin may be present for years before producing symptoms. The latter may be due to a small slit or valve-like opening in the oesophagus, or to closure of the tract by contraction of the oesophagus, and possibly of the trachea and bronchi, during deglutition.'

Radiological Technique

We suggest that, in all cases which are to undergo oesophagoscopy, a pre-operative contrast-medium swallow and straight X-ray of the chest should be instituted, and that both these investigations should be repeated after instrumentation.

In addition, the routine procedure for a contrast-medium swallow should be altered. The usual positions for radiography in the erect and supine and/or prone positions are inadequate. It has been found that if a fistula passes from the oesophageal wall in a somewhat upward direction either to the mediastinum or to part of the respiratory tree, it will not be demonstrated either partially or in its entirety if this routine procedure is followed. The patient should therefore be placed in the supine and/or prone position with the head tilted downwards and then asked to swallow the contrast medium. In addition further views are advisable. If a fistula passes from the oesophageal wall in an upward direction and to the left then, in addition to the supine position with the head tilted down, a position should be taken in which the chest is tilted with the right side upward, i.e. the right anterior oblique position. If the fistula passes to the right and upwards, then the patient should lie supine with the head tilted down and the chest tilted with the left side up, i.e. in the left anterior oblique position.

The importance of these radiological manœuvres is demonstrated in the following case reports:

Case 1

This case has previously been described as the first demonstration of an oesophago-pleural fistula outlined with contrast medium.[1]

A middle-aged male African was to be treated for an inoperable carcinoma of the middle third of the oesophagus. His chest was radiographed pre-operatively and was found to have normally transradiant lung fields. A contrast-medium swallow demonstrated the carcinoma but no fistula was present.

A Souttar's tube containing radium was inserted and a routine chest radiograph was ordered on the patient, who was comfortable and symptom-free. The radiograph revealed the presence of a right-sided haemo- or hydropneumothorax. An immediate diagnosis was made of an oesophago-pleural fistula. (Fig. 1.)

A contrast-medium swallow was done and the above diagnosis confirmed. (Fig.2.)

Case 2

A diagnostic oesophagoscopy on an African male had revealed the presence of a carcinoma in the upper third. After the operation the patient was symptom-free, but a routine chest X-ray then instituted revealed surgical emphysema of the neck and shoulders. A diagnosis of oesophago-mediastinal fistula was made and was confirmed on contrast-medium swallows. (Fig. 3.)

Case 3

A radium-containing Souttar's tube was placed into an oesophagus for a lower-third carcinoma. A routine post-operative radiograph of the chest revealed surgical emphysema in the region of the left shoulder. This patient, unlike cases 1 and 2, was not completely asymptomatic—he had developed a post-operative cough.

A contrast-medium swallow revealed the presence of an oesophago-mediastinal fistula (Fig. 4), which was demonstrated on the right border of the oesophagus and appeared to pass in an upward direction. The technique described above of tilting the patient with the head downwards and the left side raised resulted in the demonstration of the entire course of the fistula, which was now found to penetrate the right lower-lobe bronchus; that is to say, it was an oesophago-mediastino-bronchial fistula (Fig. 5).

SUMMARY

1. In a series of 29 cases of carcinoma of the oesophagus 43% were found to have fistulae present either pre- or post-operatively. Three could be demonstrated for the first time post-operatively by routine chest radiography, confirmed on contrast medium swallow.

2. Most patients with fistulae were asymptomatic.

3. Radiological studies of chest and oesophagus are considered to be essential routine procedures both before and after oesophagoscopy.

4. The usual radiological positions for oesophageal examination are inadequate and inaccurate. Procedures varying from the usual technique were found to be more thorough and accurate.

5. The importance of routine post-oesophagoscopy X-rays and the importance of the altered technique is demonstrated in 3 case reports.

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REFERENCES

1. Katz, J. and Cohen, G. (1959): S. Afr. Med. J., 33, 773.
2. Abrams, H. S. (1954): Arch. Otolaryng., 60, 371.

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VAN DIE REDAKSIE : EDITORIAL

BEDSERE

Die omvang van die probleem van bedsere styg eweredig met die lengte van die tydperk waarin 'n pasiënt die bed moet hou. Hoewel hierdie probleem dikwels in ‚akute' hospitale groot afmetings aanneem, word dit van allergrootste belang in die gevalle van chroniese invalides. Daar is seker min toestande wat so 'n algehele gevoel van frustrasie by die geneesheer opwek as 'n groot, diep bedseer. Soos by ander toestande is voorkoming hier nie alleen beter as genesing nie, maar heelwat eenvoudiger; en tog haas ons om by te voeg dat die probleem van voorkoming self ook baie lastige probleme oplewer, sommige waarvan dikwels onoplosbaar is.[2]

Guttmann[1] verdeel die faktore wat lei tot bedsere in (*a*) intrinsieke en (*b*) ekstrinsieke faktore. Intrinsieke faktore kom veral by die bejaarde, baie siek of verswakte pasiënt voor, en onder hierdie faktore sluit Guttmann in bewegingloosheid in die bed en 'n verlaagde weefselweerstand teen faktore wat druk veroorsaak. Die bewegingloosheid kan toegeskryf word aan verminderde sensasie vir druk (en dus die behoefte aan verandering van posisie), geestelike apatie, en spierswakheid. Paraplegie is dan ook die prototipe van hierdie tot-bedseer-geneigde pasiënt, aangesien sensoriese en motoriese belemmering hier dikwels voorkom. Die verlaagde weerstand van die weefsels teen druk en infeksie is net nog 'n uitdrukking van versteurde fisiologiese toestande oor die algemeen by die bejaarde verswakte pasiënt.

In paraplegie word die verlaagde weerstand verder vererger deur verlies aan vasomotoriese kontrole met gevolglike vasodilatasie en kapillêre beskadiging.[1]

Die ekstrinsieke faktore behels in hoofsaak lokale druk en maserasie van die vel deur 'n langdurende klam omgewing, hetsy die gevolg van sweet, urine, of ontlasting. Daar is egter rede om te vermoed dat voortdurende vogtigheid 'n minder belangrike rol speel as wat voorheen vermoed is, want dit is seldsaam om enige diep ulserasie in die perineum, die skrotum of die lieste waar te neem.[2]

Die tradisionele geloof dat die primêre letsel in die vel is, en dat dit te wyte is aan swak verpleging, is waarskynlik in die meerderheid van gevalle nie korrek nie.[2] As oppervlakkige nekrotiese vel soms verwyder word, is mens verbaas om heel dikwels 'n veel groter nekrotiese gebied in die onderliggende spiere waar te neem. Groth[3] en Husain[4] het dan ook getoon (met dier-eksperimente) dat die vel en onderhuidse weefsel baie meer weerstand teen drukbeskadiging het as die onderliggende spiere. Solank druk uitgeoefen word, word die bloedvate toegedruk en as die druk opgehef word, is daar reaktiewe hiperemie, verhoogde kapillêre deurlaatbaarheid met lokale edeem, en weefselnekrose. Ons wil nie hiermee die belang van goeie velversorging minag nie, maar die aandag vestig op die belangrikheid van druk in die patogenese van die letsel.

Baie werk moet nog gedoen word oor die grondliggende veranderings by die ontstaan van bedsere. So het Poer[5] bv. getoon dat tot 50 g. proteïen verlore mag gaan uit 'n groot bedseer en, as die grondslag van die behandeling, sou 'n hoë proteïen, bv. hoë kalorie-dieet, 'n vereiste wees. 'n Hemoglobien van minder as 12 g.% is ook nadelig en vertraag genesing aansienlik. Hierdie anemie kan verskillende oorsake hê, onder andere chroniese sepsis, bloedverlies en swak voeding.[5]

Die gevolge van druk is verder by elf normale sittende persone deur Kosiak[6] en sy medewerkers gemeet, veral onder die sitvlak en die sitbeenknobbels. Hul stel 'n spesiale stoel voor vir sittende paraplegiese pasiënte.

In 'n reeks wat tydens die dae van bedrus vir paraplegielyers gepubliseer is, was 10% van die sere oor die ischium,[7] maar in 1949, toe die belang van die sittende posisie besef is, was 53·2% van die sere oor die ischium.[8] Hierdie syfers toon nie net hoe belangrik druk is nie, maar ook dat ons nou die ernstiger sakrale en trokanteriese sere deur vroeë ambulasie kan voorkom.

Die voorkomende behandeling is, soos genoem, uiters belangrik. Op die verpleging wil ons nie verder ingaan nie, behalwe om aan te toon dat aanhoudende druk voorkom moet word en dat skuiwende of torsie-druk baie belangrik is by pasiënte wat bv. hartversaking het en in 'n ortopneeposisie in die bed sit. Die afskuif van sulke pasiënte in die bed is so belangrik dat 'n voetrus of die outydse ‚donkie' onder die knieë dalk weer ingevoer moet word.[2] Ringe onder die hakskene is nutteloos en gevaarlik, hoewel min verpleegsters en susters dit sal glo. Die ring span die vel styf oor die kalkaneus en veroorsaak dikwels erger ulkusse. 'n Kussing onder die kuite is verkieslik.[2]

Baie was met seep en water oor druk-areas is nadelig en silikoon-preparate is verkieslik,[9] bv. Silicone vasogen (20% polidimetielsiloxaan in 'n wateroplosbare basis).

Verder moet ons let op 'n hoë proteïen-dieet en vitamienaanvulling soos reeds genoem. Die hemoglobien moet bo 12 g.% gehandhaaf word.[5] Wat betref die gevestigde ulkus is die chirurgiese behandeling deur verskeie werkers bespreek; 'n nuttige oorsig in hierdie verband is dié van Snell.[10]

Eusol 1 : 8 oplossing is doeltreffend om die Meeste oppervlakkige ulkusse te ontsmet. Bors en Comarr[11] toon dat bakterieë 'n betreklike geringe rol speel, maar kweking en plaaslike antibiotiese behandeling het waarskynlik tog 'n plek in die behandeling.

Spierspasma en spastisiteit is ernstige nadele waarvoor anterior rhizotomie of neurotomie nodig mag wees, maar die onlangse beskrywing van 'n mediese anterior rhizotomie deur fenol inspuitings in die subarachnoidale ruimte, is 'n veel kleiner en, uit die internis se oogpunt, verkiesliker prosedure.[12,13]

Dit is moontlik dat bedsere net 'n herinnering aan die donkere verlede word, maar dan genoodsaak dit ons om meer aktief belang te stel en meer aktiewe basiese navorsing aan die probleem te wy. Ons moet die pasiënt met bedsere ook nie meer as ‚suster se pasiënt' beskou nie. Baie aspekte van verpleging in gevalle met bedsere regverdig 'n kritiese, wetenskaplike studie en nie net ‚kliniese intuïsie' nie.

1. Guttmann, L. (1956): Brit. J. Plast. Surg., **8**, 196.
2. Farquharson, E. L. (1958): Practitioner, **181**, 653.
3. Groth, K. E. (1942): Acta med. scand., **87**, suppl., 76.
4. Husain, T. (1953): J. Path. Bact., **66**, 347.
5. Poer, D. H. (1946): Ann. Surg., **123**, 510.

6. Kosiak, M., Kubicek, W. G., Olson, M., Danz, J. N. en Kottke, F. J. (1958): Arch. Phys. Med., 39, 623.
7. Conway, H., Krainl, C. J., Clifford, R. H., Gelb, J., Joseph, J. H. en Leveridge, L. L. (1947): Surg. Gynec. Obstet., 85, 321.
8. Blocksma, R., Kostrubala, J. G. en Grecley, P. W. (1949): Plast. Reconstr. Surg., 4, 123.
9. Bateman, F. J. A. (1956): Brit. Med. J., 11, 554.
10. Snell, J. A. (1958): Med. J. Aust., 2, 109.
11. Bors, E. en Comarr, A. E. (1948): Surg. Gynec. Obstet., 87, 68.
12. Nathan, P. W. (1959): Lancet 2, 1099.
13. Kelly R. E. en Gautier-Smith, P. C. (1959): *Ibid.*, 2, 1102.

BIOLOGY IN THE TWENTIETH CENTURY

Modern biology has developed along several different lines. The influence of systematic zoology and botany on biology has continued from the nineteenth century, but the contribution of these basic sciences to modern biology has become relatively less as more potent influences from medicine, agriculture, and biological industry have developed.

The influence of medicine on biology has become paramount. The unscientific or 'magical' use of drugs, which dominated medicine and misled science for hundreds of years, has been abandoned. Pharmacy has become a scientific industry with a positive effect on the whole progress of biological science. With the advent of rational pharmacology, in which the exact biochemical mode of action of drugs becomes known, it will become possible to control body processes scientifically and to restore and maintain health. Nutrition surveys and campaigns have become important in medicine, and governments have taken cognisance of this knowledge to provide the food necessary to maintain their industrial and military manpower. This, in its turn, has influenced the largest and oldest biological industry, namely agriculture, and the establishment of food industries. Food processing and rational systems of preserving and preparing food have become more and more scientific.

Nutrition is, however, not the only factor in public health that has stimulated biological advance. Sanitation has been followed by the triumph over insect-borne diseases. Combined attacks by biological sciences, such as entomology and ecology, epidemiology and parasitology, have achieved far-reaching results. Clinical medicine has also made its contributions and, with the success achieved in epidemic disease, has concentrated on chronic states and the effects of strains produced in a mechanized civilization. Research is taking a larger share in medical training and experience, and medicine is rapidly being transformed into a scientific discipline.

In agriculture the changes are still largely mechanical, but they are gradually becoming more and more biological in nature, e.g. improvements in fertilizers and feeding-materials, the struggle against insects, moulds, viruses and the forces of nature; and the conservation of the soil.

The biological industries have been a third factor in the development of biology. A microbiological industry producing antibiotics, food and industrial products is developing on a big scale.

Biological progress depends on liberal financial aid. In medicine and agriculture rapid advances have taken place as a result of the stimulus of war; in fact, conditions of war have led to greater scientific effort than times of peace. It was only during the Second World War that the full practical potentialities of biology came to be realized; now, in the post-war period the study of radio-active poisons, for instance, has opened up a new era. Biology now has new phycical techniques, involving the use of radio-active tracers, electron microscopes, and electro-encephalography.

Thus powerful economic and social forces have contributed to the rapid advance of biology in our day. Some of the major branches of biology that have shown fruitful advances during the past fifty years include biochemistry, microbiology, chemotherapy, cytology and embryology, control systems (hormonal and nervous), heredity and evolution, ecology, and agriculture.[1]

1. Bernal, J. D. (1954): *Science in History*. London: Watts.

TAALRUBRIEK

Die Taalkomitee van die Geneeskundige Skool van die Universiteit van Stellenbosch stel voor om te gebruik:

1. Eng. compliance: Afr. *veerkragtigheid* (bv. van die longe).
2. Eng. snap—click: Afr. *klap* en *klik* (i.v.m. hartklanke).
3. Eng. (at) term: Afr. *tyd*. Eng. 'premature' in terme van die moeder se tyd is dan: *voor tyd*; 'postmature' dan: *oor tyd*; en 'maturity': *dratyd* (bv. volle dratyd).
4. Eng. gas trapping: Afr. *gasverstrikking*.
5. Eng. vicious circle: Afr. *bose kringloop*.
6. Eng. fornix: Afr. *forniks*, mv. *fornikse*.
7. Eng. portal: Afr. b.nw. *portale*, s.nw. *poort-*, dus bv. *portale* bloedsomloop, *poortvate*.
8. Eng. lithotrite: Afr. *litotriet*.
9. Eng. common bile duct: Afr. *gemene galbuis*; *choledokus*.
10. Eng. segmental: Afr. *segmenteel*.
11. Eng. Calyx, calyces: Afr. *kelk*, *kelke*.

Korrespondensie

M.J. te K. U voorstel dat *verskuif* gebruik word (en nie *aftak* nie) sal later oorweeg word wanneer *aftak* meer geleentheid gehad het om kommentaar uit te lok.

M.P. te P. Nee, die *Suid-Afrikaanse Tydskrif vir Geneeskunde* is voorlopig die enigste plek waar ons lyste gepubliseer sal word.

W.S. te H. Baie dankie vir u baie lesenswaardige brief. Die Komitee hou rekening met al u opmerkinge, maar wys net op 'n paar puntjies:

1. *Lokale* anestesie, *kardiale* asma. As ons net die s.nwe. lokaal en kardiaal gehad het, sou ons moés skrywe: lokaalanestesie en kardiaalasma. Maar nou hèt ons (ook) dié b.nwe., en hierdie twee word in Afr. gewoonlik verbuig (in Ndls. en Dts. gewoonlik nie). Vandaar ons aanbeveling. U opmerking dat ons gerus maar twee vorme kan ‚toelaat' omdat die een ‚tog maar later die ander sal doodbyt', is taalkundig korrek, maar die Komitee meen dat ‚die publiek' verkies om één vorm te kry en klaar. Kom ons wag en kyk.

2. *Brongitis.* So skryf die Suid-Afrikaanse Akademie, ons enigste liggaam met offisiële spellingsgesag, al jare lank. Ons kan nie anders nie.

3. *Borsbeen-sleutelbeen-agterhoofsbeenknobbel.* (Eng. sternocleidomastoid.) Die Komitee is dit met u eens dat sulke vorme te ver gaan en sal dus ook nooit soiets voorstel nie.

HYPERTENSION IN PREGNANCY*

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Hypertension in pregnancy has always been a problem, and pre-eclampsia has constituted its greatest challenge. Intensive research has failed to demonstrate the cause of pre-eclampsia, although the characteristic rise in blood pressure seems dependent upon arteriolar constriction. If this is so, treatment that relieves this arteriolar constriction should have a beneficial effect in pre-eclampsia and, possibly, other causes of hypertension in pregnancy. The purpose of this paper is not to enter into a discussion on the aetiological factors, but to present to you our experience with the use of a vasodilating hypotensive agent, viz. protoveratrine (puroverine-Sandoz).

In view of favourable reports by other authors[1-5] we have used this drug in the treatment of 120 Bantu patients admitted to the Bridgman Memorial Hospital, Johannesburg, with hypertension in pregnancy. Two forms of protoveratrine were used, both given orally in tablet form, viz.

1. Puroverine (PVS 295), the short-acting form, consisting of pure crystalized alkaloids of *Veratrum album* in the ratio 2/3rds of protoveratrine A to 1/3rd of protoveratrine B, each tablet containing 0·25 mg. of the total active substance. (The B fraction is known to be only 1/20th as effective as the A fraction and, consequently, it is not considered to contribute greatly to the clinical response.)

2. 'PVA retard', containing only the protoveratrine A fraction in a long-acting form. (The amount of total active substance is 0·3 mg., of which 0·1 mg. is released immediately, 0·1 mg. 3–4 hours later, and the remaining 0·1 mg. after a further 3–4 hours. Thus prolonged action is obtained without repeated dosage and patients are allowed undisturbed rest at night.)

Further routine treatment consisted of bed rest and salt-free diet, sedation being given only in very severe pre-eclampsia in the initial hours after admission. While treatment continued, the blood pressure was recorded every 2 hours during pregnancy, more frequently during labour, and daily throughout the puerperium. On discharge the blood pressure was again recorded and the final check made at the postnatal clinic.

Labour was not induced, medically or surgically, but was allowed to commence spontaneously, being terminated by forceps or Caesarean section only where other obstetrical indications were present.

Retrograde analysis of the presenting features in the patients in this series resulted in our distinguishing 5 groups, viz. pre-eclampsia, essential hypertension, chronic nephritis, uncomplicated hypertension of pregnancy, and eclampsia (Table I).

TABLE I

	Pre-eclampsia	*Essential Hypertension*	*Chronic Nephritis*	*Uncomplicated Hypertension of Pregnancy*	*Eclampsia*	*Total*
Number of cases	86	12	4	16	2	120
Average duration of treatment (days)	7·4	11·1	29·5	6·7	3·5	11·6
Response to treatment						
Good	76	8	4	16	2	106 (88·3%)
Fall in B.P., then rise	4	1	—	—	—	5 (4·2%)
No response ..	6	3	—	—	—	9 (7·5%)

1. *Pre-eclampsia*

All patients with a blood pressure reading of 140/90 mm. Hg or greater, and/or albuminuria, and/or oedema and excessive weight gain, were classified as pre-eclampsia. Provided that on discharge the blood pressure readings were normal, the urine showed no albumen, and there was no oedema present, the classification remained unaltered.

Oral treatment commenced immediately on admission and the dosage was adjusted to suit each patient. Two tablets of PVS 295 given every 2 hours were usually sufficient to evoke a response within 2-4 hours. When 'PVA retard' was used, doses were given at 6 a.m., 10 a.m., 2 p.m., and 6 p.m., and the amounts varied from a maximum of 5-3-3-5 tablets to a minimum of 1-½-½-1 tablets.

Fig. 1 shows a typical response in a 17-year-old primigravid patient with moderately severe pre-eclampsia at the 36th week of pregnancy. PVS 295 was used until a response was obtained, and then the long-acting form was introduced. Within 3 days spontaneous labour commenced and the infant

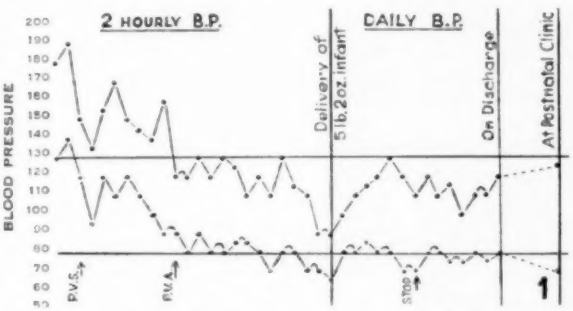

Fig. 1. A typical response to treatment. Pre-eclampsia in a primigravida aged 17 years.

was delivered by forceps because of foetal distress. Treatment was continued for 6 days in the puerperium. On discharge and at the postnatal clinic, the blood pressure readings were normal. The oedema and albuminuria diminished during treatment and disappeared in the puerperium as would be expected.

Of the 86 patients in the pre-eclampsia group, 66 (77%) were considered as moderately and severely affected, but only those with severe symptoms were sedated, so that the effect of protoveratrine alone could be assessed even in this type of patient.

In Table II the patients in this group are listed according to duration of pregnancy at the onset of treatment. The response

* Paper presented at the 42nd South Africa Medical Congress (M.A.S.A.), East London, September-October 1959.

obtained and the maturity of the infants at delivery are shown. It will be noted that 32% of the infants, were premature at delivery (under 5 lb. 8 oz.,) suggesting that although

TABLE II. PRE-ECLAMPTIC PATIENTS TREATED WITH PROTOVERATRINE

Duration of Pregnancy at Onset of Treatment	Number of Patients	Good Results	Infants at Delivery	
			Mature	Premature
28 and 29 weeks ..	4	3	1	3
30 and 31 weeks ..	3	3	—	3
32 and 33 weeks ..	15	14	5	10
34 and 35 weeks ..	10	6	3	7
36 and 37 weeks ..	24	22	21	4
38 and 39 weeks ..	15	14	15	1
40 weeks	15	14	15	0
Totals	86	76	60	28
Percentages ..		88%	68%	32%

peripheral and possibly normal uterine blood flow may have been restored by the vasodilatory action of protoveratrine, the placenta was unable to function so as completely to satisfy the needs of the growing foetus. This was particularly so where the toxaemia occurred from the 28th to the 35th weeks of pregnancy; 82% of premature infants were born of mothers in whom pre-eclampsia commenced in or before the 35th week.

2. *Essential Hypertension*

All patients with a history of previous hypertension and with hypertension in early pregnancy, but no albuminuria or oedema were classified as essential hypertension.

The same routine treatment was carried out as for pre-eclampsia. Two of the 12 patients refused to continue with treatment and left hospital undelivered.

3. *Chronic Nephritis*

In 4 patients the diagnosis of chronic nephritis was established after full investigation. In spite of a good blood-pressure response to treatment, abortions occurred in 3 patients and the 4th was delivered of a premature infant after spontaneous onset of labour. Two of the mothers were subsequently transferred to the medical ward of a general hospital for continued treatment and investigation.

4. *Uncomplicated Hypertension of Pregnancy*

This group of 16 patients comprised women who, on admission, were found to be hypertensive without albuminuria, oedema or excessive weight gain. They had no symptoms or signs of pre-eclampsia, and the raised blood pressure returned to normal before discharge. No evidence of hypertension of early pregnancy was available during antenatal attendance at the clinic. Of these patients, 2 developed a raised blood pressure in the middle trimester of pregnancy, 10 showed hypertension in later pregnancy and labour, and 4 required protoveratrine in the puerperium for an unexpected rise in blood pressure.

5. *Eclampsia*

Only 2 cases of eclampsia were treated. Both these patients were unbooked emergency cases and in neither had any antenatal care been given. Both were young primigravidae in whom convulsions had occurred before admission. Heavy sedation was given, followed by protoveratrine.

Although a good blood-pressure response was obtained in both patients and no further convulsions occurred, one developed a renal 'shut down' which required hypertonic intravenous glucose and Bull's intragastric-fluid therapy before diuresis and recovery were established. Both mothers survived and were discharged in satisfactory condition.

Response to Treatment

A good response, i.e. blood pressure decreased to below 130/80 mm. Hg and maintained below this level, was achieved in 106 (88%) of patients (Table I). In 5 (4%) the response could not be maintained and the blood pressure rose again (temporary response). In 9 patients (7·5%) no response was obtained.

No patient on treatment developed eclampsia and no maternal deaths attributable to the administration of protoveratrine occurred.

Side-effects

The commonest side-effects noted were nausea and vomiting. Of the 120 patients treated, 15 (12·5%) showed vomiting, which was easily controlled by a reduction in dosage. This is a markedly lower percentage than that noted in European patients treated with protoveratrine for persistent hypertension.

Excessive dosage resulted in marked hypotension in only 3 (2·5%) patients. Ephedrine hydrochloride, gr. ½ administered by intramuscular injection, successfully overcame this and treatment continued at a reduced dosage.

Cessation of treatment because of side-effects was only necessary in 4 (3·3%) patients.

Foetal Results

These are shown in Table III. The total foetal loss of 22, was made up of 11 stillbirths and 11 neonatal deaths. Six

TABLE III. FOETAL RESULTS

	Pre-eclampsia	Essential Hypertension	Chronic Nephritis	Uncomplicated Hypertension of Pregnancy	Eclampsia	Total	
						Mat.	Prem.
Number of infants	88	11	1	16	3	79	40
Live births ..	79	10	1	16	2	75	33
Stillbirths ..	9	1	—	—	1	4	7
Neonatal deaths ..	8	1	—	1	1	2	9
Total foetal loss ..	17	2	0*	1	2	22 (18·5%)	

* Excluding 3 abortions at 20, 24 and 24 weeks of pregnancy.
Mat. = mature. Prem. = premature.

infants were lost owing to factors not directly attributable to the hypotensive treatment, as follows: 1 showed gross changes of hydrops foetalis; 2 died of acute bronchopneumonia in the neonatal period; 2 died of cerebral haemorrhage, 1 died of asphyxia after rupture of the uterus.

Of the remaining 16 infants, representing a foetal loss of 13%, 14 were premature and the causes of death were ascertained as follows: intra-uterine death, 6; concealed accidental haemorrhage, 2; abruptio placentae in the second stage of labour, 1; prematurity with no other cause of death found at post-mortem, 7. These infants died within 48 hours of delivery. The 2 full-term infants lost were macerated twins.

COMMENTS AND CONCLUSIONS

Puroverine, as used in this series, proved to be a potent hypotensive agent, controlling 88·3% of cases of hypertension

in pregnancy irrespective of the underlying pathological changes which had resulted in the raised blood pressure.

The management of toxaemia of pregnancy by this means has not materially altered the natural course of the disease. Apart from the significant facts that no patient developed eclampsia and no death occurred from pre-eclampsia, the relatively high proportion of premature infants delivered does indicate that placental function was not significantly improved.

The successful control of hypertension by the oral administration of puroverine has reduced the need for heavy sedation with barbiturates, paraldehyde and morphine, with their attendant disadvantages. The patients have been conscious and able to take nourishment and fluids, which would have previously required intravenous administration.

The side-effects of the preparation are unpleasant, but only necessitated cessation of therapy in a very small percentage of patients. Overdosage had no serious consequences; in the 3 patients who developed hypotension, ephedrine hydrochloride, gr. $\frac{1}{2}$ by intramuscular injection, rapidly restored the blood pressure to a normal level.

The conclusion that puroverine is a useful and safe adjunct to the treatment of hypertension of pregnancy appears to be justified.

Although the vasodilatory effect should produce increased blood flow and oxygenation of tissues including the placenta, the prematurity rate of one-third indicates that the pathological process has not been halted. We are not much closer to the understanding of the aetiology of pre-eclampsia. Continued clinical observation, careful judgment and termination of pregnancy as required has not been supplanted by the hypotensive effect of this drug, nevertheless, it is a safe means of control of raised blood pressure until delivery can be effected by the procedure of the practitioner's choice.

SUMMARY

1. 120 patients with hypertension in pregnancy were treated with protoveratrine (puroverine-Sandoz PVS 295, and PVA) both the short-acting and the retard forms being used.

2. Patients were divided into the following 5 groups: pre-eclampsia; essential hypertension; chronic nephritis; uncomplicated hypertension of pregnancy; eclampsia.

3. Good hypotensive response was obtained in each group, in the series as a whole it was satisfactory in 88·3% of patients.

4. The side-effects of the preparation are unpleasant, but are easily controlled in the great majority of patients by simple reduction of dosage.

5. Although the vasodilatory effect should produce increased blood flow and oxygenation of tissues including the placenta, the prematurity rate of 32% indicates that the pathological process is not significantly altered.

6. Continued clinical observation, careful judgment, and termination of pregnancy as required, have not been made unnecessary by protoveratrine, which, however is a safe means of control until delivery can be effected by the procedure of choice.

REFERENCES

1. Käser, O. (1953): Gynaecologia (Basel), **125**, 259.
2. Krupp, P. J., Farris, C., Pierce, C. F. and Jacobs, A. (1954): Amer. J. Obstet. Gynec., **68**, 1118.
3. Farris, C. and Krupp, P. J. (1957): *Ibid.*, **74**, 1043.
4. Morris, N. (1955): J. Obstet. Gynaec. Brit. Emp., **62**, 696.
5. Winkler, E. G. and Cangello, V. W. (1958): Amer. J. Obstet. Gynec., **75**, 433

INCREASED PLASMA IRON AND LIVER PATHOLOGY IN AFRICANS WITH PORPHYRIA

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We recently drew attention to a grey-black pigmentation of the face in Africans (Bantu) shown by us to have marked hepatic siderosis.[1] We have also noted a contrast between this uniform pigmentation and the 'blotchy' appearance of the skin in African patients with porphyria. This observation, and the fact that we had found a high incidence of liver pathology and disturbances in plasma iron in siderotic patients,[2,3] prompted us to perform liver biopsies and plasma-iron estimations in porphyric patients.

Material and Methods

One of us (N.M.L.) has seen 37 patients (20 female) with porphyria in the out-patient department of this hospital during the past 9 months, and many more have attended the dermatology clinic. Of these 37 patients it was possible to arrange admission of 13 males and 2 females for liver biopsy. Their ages ranged from 32 to 60 years (mean 43 years).

The urine of all 37 patients fluoresced in ultraviolet light,

TABLE I

Case No.	Sex	Age	Skin			Abdom. Colic	Neurol. Signs	Urine			Serum Bilirub. (mg.%)	Hb. (g.%)	Plasma Iron (µg.%)	TIBC (µg.%)	% Saturation
			Hyperpig.	Scars	Vesicles			PBG	Uro. I	Uro. III					
1	F	60	+	+	0	mild	+				<·8	14·3	106	215	49
2	M	52	+	+	+	mild	0				1·9	12·5	101	190	53
3	F	49	+	+	+	mild	+				<·8	16·4			
4	M	47	+	+	0	0	+				<·8	15·8			
5	M	33	+	+	+	0	+	0	+	0	<·8	16·2	300	449	67
6	M	38	+	+	0	0	+				1·4	16·2	346	325	100
7	M	37	+	+	+	0	0				1·1	15·6	255	245	100
8	M	42	+	+	0	0	0				<·8	16·2	208	200	100
9	M	33	+	+	0	mild	0	+	–	0	<·8	15·8	403	360	100
10	M	32	+	+	+	0	0	0	+	+	1·3	19·1	276	262	100
11	M	51	+	+	+	0	0	0	+	0	1·2	14·8			
12	M	48	+	0	0	mild	+	+	+	0	<·8	17·0	245	359	68
13	M	40	+	+	+	0	0	+	+	0	0·9	15·5	338	337	100
14	M	40	+	+	+	0	0	+	+	0	<·8	19·5	269	212	100
15	M	43	+	+	0	0	0	0	+	0	<·8	16·3	212	271	79

PBG = porphobilinogen. Uro. = uroporphyrin. TIBC = total iron-binding capacity.

and in 8 of them urinary porphyrins were differentiated spectroscopically. Plasma iron and total iron-binding capacity were estimated by the procedure previously described.[3] Liver biopsies were performed by the transabdominal route by means of the apparatus described by Gillman and Gillman.[4] Serial sections were stained for reticulin and iron; they were also stained with haematoxylin and eosin and by a modified Masson technique.

RESULTS

The clinical and laboratory findings are summarized in Table I.

Clinical Features

All our patients had the same broad clinical pattern as the African porphyric patients described by Barnes,[5] Gelfand and Mitchell,[6] and Shaper.[7] Of the 15 patients, 14 had typical depigmented 'scars' on the dorsa of their hands and other exposed areas. Active vesicles were present in 8 patients. One male (case 12) showed only excessive pigmentation, particularly of the face, which was of recent origin (2 years) and which was the patient's main complaint. In this hospital, hypertrichosis is more commonly found in females than in males with porphyria, and was absent in 6 of our male patients.

A history of *abdominal colic* was given by 5 patients, but in none was the pain severe. *Neurological signs* such as calf tenderness, hyperreflexia, absent reflexes, or impairment of sensation, were detected in 6 patients. Case 9 had been admitted to a mental institution during 1958 for a transient psychosis.

In all cases the liver was appreciably enlarged and of firm consistency. The spleen was palpable only in case 13. No patient presented with clinical features frankly suggestive of liver disease.

Laboratory Findings

In the 8 cases whose *urine* was examined spectroscopically, uroporphyrin I was present in all and was the predominant pigment in all except case 12, who showed no skin lesions, apart from the excessive pigmentation. Porphobilinogen was present in 4 cases, while uroporphyrin III was present in 1.

The *fasting blood sugar* was determined in cases 9, 13, 14 and 15, and was below 90 mg. per 100 ml. in all four.

The *haemoglobin* was normal or high in all patients, averaging 16·1 g. per 100 ml.

The *plasma iron* was above 200 μg. per 100 ml. in 10 of the 12 patients in whom it was determined. Both the remaining patients, whose plasma-iron levels were normal, were suffering from acute dysentery; infections are known to depress plasma-iron levels. The values for total iron-binding capacity were less consistent, being decreased in 5, relatively normal in 6, and elevated in 1. There was complete saturation of the total iron-binding capacity in 7 out of the 12 patients.

Liver Biopsy Findings

The biopsy specimens all showed evidence of liver damage, which varied from minor alterations in the intralobular and periportal reticulin framework (Fig. 1) to gross distortion of lobular architecture with scarring and hyperplastic nodules typical of cirrhosis (Figs. 2 and 3). Only 1 case showed the type of portal fibrosis usually found in African patients with advanced hepatic siderosis.[2] Iron-containing pigment was present in the liver in significant amounts in 12 patients, but its distribution was different from that usually found in siderotic patients in that hepatocellular iron was minimal and Kupffer-cell iron tended to predominate. In no patient was iron accumulation as heavy as that commonly found in our siderotic patients. Widespread fatty change of moderate degree was present in specimens from 9 patients.

Fig. 1. Liver biopsy from case 7. Reticulin stain × 35.
Fig. 2. Liver biopsy from case 12. Reticulin stain × 35.
Fig. 3. Liver biopsy from case 11. Reticulin stain × 35.

DISCUSSION

The occurrence of marked elevations of plasma iron together with relatively normal total iron-binding capacity in our

patients is an unexpected finding. Marked increases in plasma iron levels have been shown in idiopathic haemochromatosis and transfusion siderosis,[8] in dietary siderosis in Africans,[9] and in acute hepatitis.[10] The association of high plasma-iron levels with somewhat reduced or relatively normal total iron-binding capacity results in a picture almost identical with that found in idiopathic haemochromatosis and transfusion siderosis, but different from that in African siderosis (Fig. 4). It would be of great interest to know whether similar disturbances in iron metabolism occur in other groups of porphyric patients, both in South Africa and elsewhere.

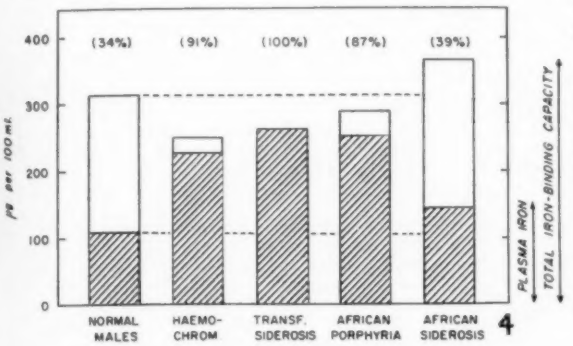

Fig. 4. Mean plasma iron and total iron-binding capacity in 12 Africans with porphyria (present study) contrasted with findings in normal males, cases with idiopathic haemochromatosis[8] and transfusion siderosis,[8] and Africans with advanced siderosis.[8] Figures in parenthesis denote percent saturation of total iron-binding capacity.

The famous case of Tio and his associates[11] provides evidence that erstwhile normal liver cells can acquire a disordered porphyrin metabolism, and Barnes[5] postulates that an acquired deviation of pigment synthesis may possibly account for porphyria in Africans. We were unable to elicit any history of cutaneous lesions in the families of our patients and Barnes's biochemical investigation of families of porphyric Africans was negative. He has shown that porphyria in Africans differs from the condition as described in White South Africans and in Europeans (particularly in Sweden), in that in Africans it is probably an acquired condition, involving a disturbance in porphyrin metabolism at an intermediate stage.

Our patients closely resemble the group described by Barnes in Union Africans and by Gelfand and Mitchell[6] in Rhodesia. Like the latter workers we have found that most of our patients consume alcoholic beverages rather freely. Barnes has shown that in his African patients the faecal excretion of porphyrins is either slightly increased or normal, as compared with his White South African porphyric patients. At the same time, the excretion of copro- and protoporphyrin in the urine of porphyric Africans is not increased, and the predominant pigment in the urine is uroporphyrin, which is usually excreted in exceptional amounts (as much as 2,000 μg. per 24 hours). Thus, porphyria in the African cannot be attributed primarily to faulty excretion by a damaged liver, but seems rather to be due to some defect in the intermediate stages of the biosynthesis of protoporphyrin.

The pattern of hepatic fibrosis in our porphyric Africans was different from that found in our siderotic Africans. Moreover, the different distribution of the iron in the liver suggests some disorder of iron metabolism in porphyria different from that in African siderosis.

The histological appearance of the liver in porphyric Africans has, to our knowledge, not previously been reported. Despite the absence of frank clinical liver disease, the presence in our patients of a distinct pattern of hepatic injury is probably not coincidental. Barnes[5] has presented evidence that porphyria in the African cannot be attributed to faulty porphyrin excretion by a damaged liver. The association, therefore, of frank liver pathology with elevated plasma-iron levels may well provide a clue to the specific underlying disorder responsible for the liver damage and the disturbances in both porphyrin and iron metabolism in our patients.

SUMMARY

Investigations have been made into 13 male and 2 female Africans with porphyria. Cutaneous lesions were present in all patients and in 8 of the patients whose urine was examined spectroscopically, the predominant pigment excreted in the urine was uroporphyrin I. These cases thus conformed both clinically and biochemically with the group of porphyric Africans described by Barnes.[5]

The plasma iron was above 200 μg. per 100 ml. in 10 of the 12 patients whose plasma iron was measured. There was complete saturation of the total iron-binding capacity in 7 cases. Haemoglobin levels were normal or high in all patients. Liver biopsies showed varying degrees of hepatic fibrosis in all cases.

The possible significance of these findings is discussed.

ADDENDUM

Since this paper was written an additional 31 Africans suffering from porphyria have been investigated. In all these 31 patients, the urine was found on spectroscopic examination to contain uroporphyrin I as the predominant pigment excreted. In addition apart from patients with overt infection (mainly tuberculosis) it was found that the plasma-iron levels were all above 200μg./100 ml. These subsequent cases will be described elsewhere.

We wish to express our thanks to Prof. T. Gillman for his comments and suggestions and for the photographs; Dr. S. M. Joubert for spectroscopic analysis of the urines; Dr. P. A. S. Canham for plasma-iron estimations; and Dr. S. Disler, Hospital Superintendent of King Edward VIII Hospital, Durban.

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REFERENCES

1. Lamont, N. M., Gillman, T. and Hathorn, M. (1959): Brit. Med. J., **1**, 1391.
2. Gillman, T., Hathorn, M. and Lamont, N. M. (1958): S. Afr. J. Med. Sci., **23**, 187.
3. Hathorn, M., Gillman, T., Canham, P. A. S. and Lamont, N. M. (1960): Clin. Sci., **19**, 35.
4. Gillman, T. and Gillman, J. (1945): S. Afr. J. Med. Sci., **10**, 53.
5. Barnes, H. D. (1959): S. Afr. Med. J., **33**, 274.
6. Gelfand, M. and Mitchell, J. D. (1957): Trans. Soc. Trop. Med. Hyg., **51**, 62.
7. Shaper, A. G. (1958): Cent. Afr. J. Med., **4**, 411.
8. Rath, C. E. and Finch, C. A. (1949): J. Clin. Invest., **28**, 79.
9. Gillman, T., Lamont, N. M., Hathorn, M. and Canham, P. A. S. (1957): Lancet, **2**, 173.
10. Peterson, R. E. (1952): J. Lab. Clin. Med., **39**, 225.
11. Tio, T. H., Leijnse, B., Jarrett, A. and Rimington, C. (1957): Clin. Sci., **16**, 517.

SICKLE-CELL TRAIT: A FAMILY STUDY AND A REPORT OF THREE FURTHER CASES OF SICKLE-CELL DISEASE

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The demonstration of the presence of an abnormal haemoglobin in sickle-cell disease by Pauling *et al.* in 1949[13] not only provided the explanation for the clinical manifestations of the disease, but also confirmed the genetic theories[12] postulated to account for its familial occurrence. In addition, it led to the concept, evolved by Pauling, of molecular disease,[14] which holds that some diseases are caused by faulty synthesis of protein, the fault being genetically determined. In sickle-cell haemoglobin the molecular abnormality was recently elucidated by Ingram,[8] who showed that HbA and HbS (as the normal adult and sickle-cell haemoglobins are termed) differ by the replacement of 2 glutamic acid residues in HbA by 2 molecules of valine in HbS.

The disease is rare in South Africa, only 6 case reports being encountered in the local medical literature—Berk and Bull[3] (1943), Altman[1] (1945), Grek and Findlay[7] (1952), Segal and Grusin[15] (1956), and Wasserman[18] (2 cases, 1958). The validity of the diagnosis in the case recorded by Segal *et al.* was questioned by Vandepitte,[17] who suggested that it may well have been a case of sickle-cell/thalassaemia disease. Wasserman's 2 cases were the first to be recorded in the Cape Coloured.

As regards the sickle-cell trait, population surveys have been conducted by several workers amongst the various racial groups in South Africa and Rhodesia—English[4] (1945), Altman[2] (1945), Esrachowitz *et al.*[5] (1952)—and all have stressed the rarity of the trait in the South African Bantu as compared with its frequency in Africans living north of the Limpopo. Esrachowitz and his colleagues surveyed the Cape Coloured population and found the trait present in 0·58%. When, therefore, a case of sickle-cell anaemia was encountered at Groote Schuur Hospital and the mother and father were both found to be members of large Cape Coloured families, it was thought that the results of a family study might prove interesting.

CASE REPORTS

Case 1

The propositus, J.H., Coloured female, presented at the age of 15 months with an acute attack of frequency and dysuria, associated with fever. Her past history included an attack of mild gastro-enteritis, mild upper-respiratory-tract infection, chicken pox, larva migrans and adenoiditis. The illness was diagnosed as acute pyelitis and treated with sulphonamides and streptomycin. There was some improvement after 3 days, but a week later she was reported to be still off-colour, listless and anorexic. On examination the child was found to be well nourished but with marked pallor of the mucous membranes, a firm non-tender 4-finger splenomegaly, and soft non-tender hepatomegaly; there was no lymphadenopathy, jaundice or rash. The haemoglobin was 9 g.% and smear showed anisocytosis, poikilocytosis, some polychromasia, and several normoblasts.

A diagnosis of a haemolytic anaemia of unknown aetiology was made and the patient referred to Groote Schuur Hospital for investigation, where she was admitted on 18 March 1959. The following additional pertinent findings were then made: Reticulocyte count 11%; serum bilirubin 2·5 mg.%; a wet preparation of peripheral blood showed sickling of the red cells, and electrophoresis revealed a pattern of sickle-cell anaemia.

Examination of the mother's and father's blood showed sickling of the father's cells only, but electrophoresis demonstrated that both were heterozygous for HbS, i.e. were cases of sickle-cell trait.

J.H's subsequent course included 2 further haemolytic attacks associated with upper-respiratory-tract infections. After the second of these attacks, the haemoglobin level dropped to 4 g.% and she was readmitted to Groote Schuur Hospital for transfusion. Since then she has remained relatively well. The spleen has decreased in size and is now just palpable. The haemoglobin concentration fluctuates between 7 and 9 g.%.

Cases 1 and 3

The families of the parents were also linked by a marriage between an uncle of the mother and a sister of the father (Fig. 1). Two of the 8 children of this marriage had suffered from recurrent bouts of pyrexial illnesses which, in the elder, Coloured male aged 16, were associated with polyarthritis, and, in the younger, Coloured male aged 8, with mono-arthritis. Neither has ever been overtly jaundiced and neither has a palpable spleen; their haemoglobin levels are 10 g.% and 11 g.% respectively. The plasma from specimens of blood (diluted with sodium citrate) gave a positive indirect v.d. Bergh reaction. The elder patient had been hospitalized on several occasions and had been regarded as a case of rheumatic fever, atypical in the response to salicylates and in having a normal ESR, and no cardiac murmurs.

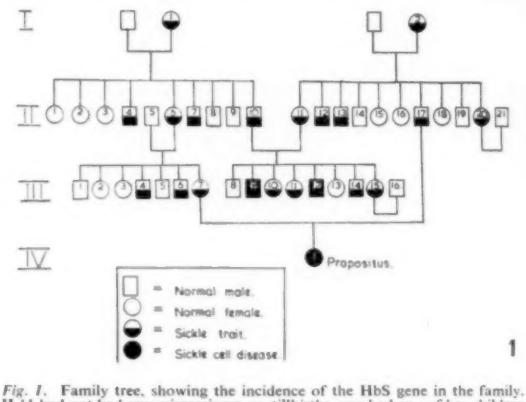

Fig. 1. Family tree, showing the incidence of the HbS gene in the family. II 11 had not had any miscarriages or stillbirths, nor had any of her children died in infancy.

Laboratory Investigations

Electrophoresis. A starch-block supporting medium was chosen in preference to paper for the following reasons: (*a*) Separation of components was better, and trailing was not nearly so marked as on paper; (*b*) elution and determination of components was accomplished with a minimum of trouble; (*c*) relatively large quantities could be applied to the block at one time and, as a consequence, reasonable quantities of purified components could, if required, be further investigated; and (*d*) increases in the proportion of the HbA2 fraction could be readily detected. The method used was basically that of Masri, Josephson and Singer,[11] modified according to the available apparatus.

Alkali denaturation. The one-minute method of Singer, Chernoff and Singer[16] was adopted.

Solubility determination. Assay of the proportion of HbS in the samples was performed according to the method of Itano.[9]

The sickling phenomenon. One drop of whole blood was treated on a slide with one drop of 2% sodium dithionite, covered with a cover-slip and examined microscopically.

RESULTS AND DISCUSSION

The blood of the propositus was examined and the diagnosis of sickle-cell anaemia confirmed. The proportion of foetal haemoglobin was assayed and found to be 10% of the total. Investigation of the family began and work proceeded in routine fashion until the unexpected discovery was made that another link between the paternal and maternal sides of the family also involved 2 heterozygotes (II 10 and II 11). On genetic grounds it was expected that, of the 8 children of this marriage, 2 should be homozygous for HbS, and such indeed was the case (cases 2 and 3). As indicated in the clinical data, one of these two children had, for years, masqueraded as a case of rheumatic fever.

The electrophoretic pattern of cases 2 and 3 calls for comment, however (Fig. 2). It resembles closely the patterns

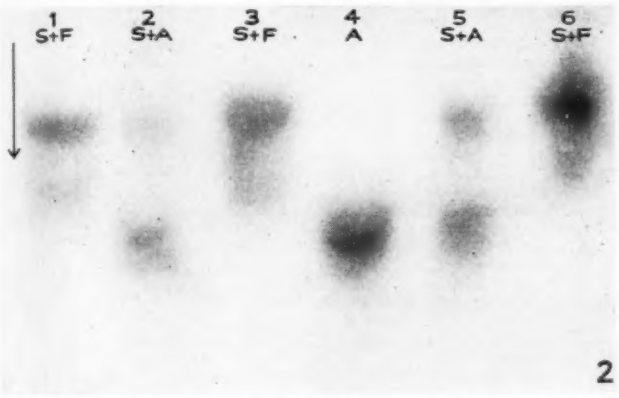

Fig. 2. Electrophoretic patterns. 1 = case 3; 3 = case 2; 6 = case 1; 2 and 5 = parents of cases 2 and 3; 4 = a normal adult. S + F = sickle-cell disease; S + A = sickle-cell trait; A = normal. Note the high proportion of HbF in the 3 cases of the disease.

seen in sickle-cell/thalassaemia disease, a condition in which the patient carries the trait for both sickle-cell disease and that for thalassaemia. It conforms also with that of a group of cases discussed by Jacob and Raper,[10] characterized by the presence of the sickle-cell trait and a gene for the persistent production of foetal haemoglobin (the 'F' gene of Went and MacIver[20]).

The latter possibility was ruled out by the absence of any appreciable quantity of HbF in the parents, and the former rendered unlikely (*a*) by the fact that both parents were heterozygous for HbS, (*b*) by the absence of HbA in both children, and (*c*) by the fact that neither parent appears, on clinical grounds at any rate, to be suffering from sickle-cell/thalassaemia disease. Evidence of a biochemical nature was obtained by measurement of the HbA2 fractions in the haemoglobin samples of the parents and the children. Gerald and Diamond[6] showed that in thalassaemia trait this fraction was increased from the normal 3% or less to values ranging from 3·3 to 6·8%. The following were the values obtained: 1·6% and 3% (parents), and 1·5% and 1·8% (children).

An unusual feature of both the cases under discussion is the unduly high proportion of foetal haemoglobin. A similar situation has been reported by Watson[19] where the foetal-haemoglobin fraction amounted to 39%.

Alkali denaturation studies were undertaken to confirm that the fraction of haemoglobin other than HbS was indeed

TABLE I. METHOD OF DETERMINATION

	Elution from Block			*Solubility Measurement*		*Alkali Denaturation*	
	HbA %	*HbS* %	*HbF* %	*HbA or F* %	*HbS* %	*HbA or S* %	*HbF* %
Cord Blood						35	65
Normal Adult						98	2
Normal Adult						98·5	1·5
Sickle Cell:							
Disease IV 1	0	90	10			86	14
Disease III 9	0	67	33			75	25
Disease III 12	0	65	35			72	28
Sickle Trait	66	34		70	30		
Sickle Trait				60	40		
Sickle Trait				56	44		

HbF and not yet another abnormal haemoglobin. While agreement between the results of this technique and that of elution from the block was not very precise, the degree of agreement was such as to confirm the presence of HbF (Table I).

Failure to elicit the sickling phenomenon in the erythrocytes of the mother of the propositus gave rise to the possibility that we were dealing with HbS/HbD disease. HbD has the same mobility as HbS and the only way to distinguish one from the other is to demonstrate the insolubility of HbS (in the reduced form) in 2·24 M phosphate buffer. This was done and the presence of HbS confirmed (Table I).

The gene was traced back to the paternal grandmother and maternal great-grandmother, but no connection with Central or West African antecedents could be established.

SUMMARY

1. The results of a family study of the sickle-cell trait are presented. A consequence of the investigation has been the discovery of 3 more cases of sickle-cell anaemia.

2. The advantage of electrophoresis over the demonstration of the sickling phenomenon in such a survey is shown by the fact that by the latter method some cases of the trait were missed and two cases of the full-blown disease were denoted as sickle-cell trait.

3. The necessity of supplementing electrophoresis with such techniques as alkali denaturation and solubility studies is well demonstrated by this survey.

We gratefully acknowledge the help and encouragement of Prof. J. E. Kench. Thanks are also due to Drs. P. M. Smythe and C. Merskey for valuable advice and criticism, and to Dr. M. C. Berman for assistance with the photography. We also wish to thank the Medical Superintendent of Groote Schuur Hospital for his permission to quote from hospital records.

REFERENCES

1. Altman, A. (1945): Clin. Proc., **4**, 1.
2. *Idem* (1945): S. Afr. Med. J., **19**, 457.
3. Berk, L. and Bull, G. M. (1943): Clin. Proc., **2**, 147.
4. English, R. B. (1945): S. Afr. Med. J., **19**, 431.
5. Esrachowitz, S. R., Friedlander, S., Radloff, G. and Saunders, S (1952): *Ibid.*, **26**, 239.
6. Gerald, P. S. and Diamond, L. K. (1958): Blood, **13**, 61.
7. Grek, I. J. and Findlay, M. (1951): S. Afr. Med. J., **25**, 780.
8. Ingram, V. M. (1959): Brit. Med. Bull., **15**, 27.
9. Itano, H. A. (1953): Arch. Biochem., **47**, 148.
10. Jacob, G. F. and Raper, A. B. (1958): Brit. J. Haemat., **4**, 138.
11. Masri, M. S., Josephson, A. M. and Singer, K. (1958): Blood, **13**, 533.
12. Neel, J. V. (1951): *Ibid.*, **6**, 389.
13. Pauling, L., Itano, H. A., Singer, S. J. and Wells, I. C. (1949): Science, **110**, 543.
14. Pauling, L. (1954): *Harvey Lectures 1953-54*, p. 216. New York: Academic Press, Inc.

15. Segal, F., Grusin, H. and Cassel, R. (1956): S. Afr. Med. J., 36, 63.
16. Singer, K., Chernoff, A. I. and Singer, L. (1951): Blood, 6, 413.
17. Vandepitte, J. (1956): S. Afr. Med. J., 36, 392.
18. Wasserman, H. P. (1958): *Ibid.*, 39, 953.
19. Watson, J. (1954): Bull. N.Y. Acad. Med., 30, 106.
20. Went, L. N. and MacIver, J. E. (1958): Blood, 13, 359 and 569.

ACTION STATIONS FOR DOCTORS IN CIVIL DEFENCE

LOUIS BLUMBERG, *E.D.*, M.B., B.CH., D.P.H., *Hon. Visiting Medical Officer, Somerset Hospital, Cape Town*

The medical problem is foremost in Civil Defence and the role of medical men, and their disposition before and after an atomic attack, are of the utmost importance. It is therefore essential that the Branches and Divisions of the Medical Association of South Africa in the probable target areas, which include the ports and the Reef, should make a survey to estimate the number of available medical men. It is also necessary to know the number of dentists, nurses, pharmacists, technicians, dieticians, and hygiene personnel, who would be available to act as auxiliaries. The nursing service and the pharmacists are, of course, essential.

Statistics of the results of the attacks of the 'nominal bomb' on the two Japanese cities of Hiroshima and Nagasaki show that such a bomb dropped on a town of half-a-million inhabitants is likely to cause 120,000 casualties.

Unless treatment is given in the first 24 hours the death rate of these casualties is very high. Under conditions, in which such a great number of casualties have to be dealt with, the minimum amount of treatment must be given to the maximum number of patients. This calls for definite planning by the Association in conjunction with the Civil Defence authority and the other public bodies concerned.

In the numerical survey of available medical men it is essential to ascertain the number of specialists, under their specialities. Special wards will have to be allocated for special injuries such as chest wounds, brain and nerve injuries, and fractures, and equipment and instruments for these cases, too, must be made available. Efficiency is best obtained in hospitals where similar cases are warded together.

For instance, casualties arriving at a 'cushion hospital' are brought into the receiving and sorting department. From this department they may be transferred to the resuscitation ward for urgent treatment, or to wards for burns, or to traumatic wards, or direct to the operating theatre, or to a medical ward for radiation sickness or to an orthopaedic ward, or to a non-casualty ward Medical teams are organized, each team dealing with one ward only, e.g. for resuscitation, burns, traumatic conditions, fractures, or radiation sickness. In addition medical teams will be needed for operations, anaesthetics, and blood transfusion, and for the pathology and radiology sections.

As there will be a continuous stream of casualties arriving, teams will have to be organized to work in shifts, so that continous treatment can be given. Standardization of treatment will have to be introduced in order to conserve drugs and dressings.

The medical planning has many complexities, especially when speed in evacuation of casualties is essential, and the posting to action stations should be done as soon as possible. In this the Association is asked to play its part in the general scheme of Civil Defence. Cognisance must be taken of extraordinary conditions that will prevail. All hospitals will be overcrowded. Recreation rooms, dining rooms, halls, store rooms, will be taken over for patients. The wards, too, will be overcrowded. All available space in the centre will have to be utilized and space between beds reduced so as to allow just sufficient room for nurses to attend patients. Additional operating theatres will have to be improvised, with minimum equipment and perhaps with a personnel consisting of an anaesthetist, a theatre sister and a nursing auxiliary. Priority operation cases will be numerous and economy of effort called for. All this adds to the number of medical personnel that will be required.

In order to conserve medical man-power the general public will need to be trained in first aid. This training will save lives, prevent complications, and relieve shock and pain. There is bound to be delay in moving patients owing to debris, to difficulties of transport, and perhaps also to radio-activity from 'fall-out', and trained lay personnel will therefore be essential to give the necessary care. The teaching of first aid will have to be undertaken by the medical profession. It can be limited to basic instruction in haemorrhage, shock, wounds (with special reference to abdominal and chest wounds), cranial injuries, unconsciousness, fractures radiation sickness, artificial respiration, and hand and stretcher transport.

In the chain of evacuation through supporting echelons the medical man's role is of great importance. It should be planned that all doctors are to be withdrawn from the target area at the time when an attack is imminent; when this should be carried out cannot be discussed within the scope of this article. The target area is subdivided into small regions, each controlled by a warden, whose attached staff of fire fighters, rescue parties, welfare section and first-aid personnel all have a knowledge of first aid and can treat casualties.

A SCHEME FOR MEDICAL ORGANIZATION IN A BOMBED AREA

1st and 2nd echelons. The 1st echelon is composed of stretcher bearers, all with a knowledge of first aid, who carry the casualties to the periphery circle, taking the place where the bomb drops as the centre of the circle. At every one-sixth of a mile on the periphery circle, are first-aid parties, each consisting of a doctor in charge, a trained nurse and 8 other ranks (doctors and nurses if available). They form the 2nd echelon. The condition of the patients is checked, further first aid is given if necessary, and the patients are sorted.

3rd echelons. Those who require immediate aid and are unable to stand long transport are sent to the 3rd echelon, a mobile forward medical-aid unit. These units are also placed on the periphery circle at about 1 - 1½ miles apart and ½ - 1 mile behind the 2nd echelons. They can be stabilized in any suitable building and must be equipped to deal with urgent unspecialized major surgery and to administer urgently-needed blood transfusion, as well to handle cases of radiation sickness. They must have holding beds with nursing personnel, where patients can be retained for as short a time as possible before further transfer. At least two operating teams will form the minimum staff of a 3rd-echelon unit. This unit is a most important link in the chain of evacuation. Delay and transport time in getting casualties from the 1st and 2nd echelon parties on the periphery circle to the nearest cushion hospital might be too long for the serious, almost moribund, cases. The intervening treatment given at the medical forward units will save many lives.

Rest centres. Amongst the casualties arriving at the 1st echelon there will be minor casualties. These are directed to rest centres, which are merely stations that deal with uninjured homeless people and with minor injuries and hysterical and depressed psychological conditions. Visiting medical officers, including a psychiatrist, are necessary here. These centres are transit camps and the patients are dispersed by any form of transport far afield to neighbouring towns after being clad and fed.

The *4th echelons* are the cushion hospitals—improvised hospitals with equipment drawn from the general hospitals in the target area, which have to be evacuated, only leaving 10% of the beds and equipment to deal with emergencies. The arrangements of special wards and medical teams at the cushion hospitals have already been mentioned. The sorting department of cushion hospitals may, without admitting, direct some cases to general hospitals anywhere up to 100 miles away. Admitted cases, too, are moved at the earliest possible moment to these general hospitals, or tangent hospitals anywhere at all, thus making room for the continuous arrival of new cases and relieving congestion.

These *general hospitals* and *tangent hospitals* will have to have additional staff drawn from practising doctors in the vicinity. Guest houses or 'homes' in rural areas will have to be turned into convalescent homes, and local practitioners, with the aid of retired nurses and members of the voluntary aid societies, will be in attendance.

Mobile relief column. In the scheme of Civil Defence, neighbouring towns of a target area are likely to be asked to organize mobile relief columns, comprised of fire-fighting personnel with appliances, pioneer sections for rescue work, stretcher bearers, welfare personnel and first-aid sections. Medical men accompany the first-aid sections. Vehicles for the clearing of debris and for ambulance work also form part of these columns. After an attack the mobile relief columns converge on the target area, and act along with the Civil Defence organization where most needed.

Area Director. Each target area has a Director of Civil Defence who not only organizes the preparation beforehand but is actually in command of the 'battle' when it arises. This battle to save life and property and to restore essential services may have to be fought for days, hindered by fires, debris, and radio-activity. The Director has an operative and advisory staff of roads, electricity, water and sewerage engineers, a firemaster, a communications engineer, a welfare officer, a police officer and at least 3 medical officers with Civil Defence training. These medical officers will deal with the medical questions of hygiene, ambulance service, hospitalization, supplies of drugs, equipment and dressings, and the prevention of epidemics and food poisoning. In some countries a doctor with Civil Defence training is appointed as Area Director, for the main and most urgent problem is the evacuation and treatment of casualties, and his special knowledge of local and surrounding hospitals and medical personnel is of the greatest value.

Mobilization. Every doctor in the target area will have to be mobilized and appointed to an action station where his service and specialized knowledge in some branch of medicine will be put to the best advantage. As indicated above, the posts to be filled are the following:

In the first-aid parties and the 2nd echelons;
In the mobile forward medical-aid units;
In the cushion, general, tangent, and rural hospitals;
On the staff of the headquarters of Civil Defence during preparedness, and in action after an attack.

Training courses. At the British Defence College, Sunningdale, Berkshire, where I attended lectures in 1951, 1954 and 1957, special courses are held from time to time on every aspect of Civil Defence. At the 'Medical Caravan' course in 1957, which was attended by the medical chiefs of the Army, Navy, Air Force and Voluntary Aid Societies, medical problems only were discussed and studied. No facilities of this kind have been made available in South Africa.

WORLD MEDICAL ASSOCIATION

INVITATION TO DOCTORS OF THE WORLD

The German Medical Association (Bundesarztekammer) is extending a warm invitation to every doctor in the world to attend the 14th General Assembly of the World Medical Association and the 63rd Deutsche Arztetag being convened in West Berlin, Germany, on 15 - 22 September 1960.

Doctors interested in receiving the latest details regarding the programme, accommodation, and registration are invited to address their requests to: Dr. Josef Stockhausen, Haedenkampstrasse 1, Köln-Lindenthal, Germany.

Special features of the first joint annual meetings of the World Medical Association and one of its constituent members include: Joint Opening and Closing Plenary Sessions with music provided by a philharmonic orchestra; numerous divine services sponsored by the representatives of the world's great religious groups as a prelude to the Opening Plenary Session; an international film programme of postgraduate teaching films—less than 25% of which originate from any one country; a scientific programme devoted to the topic 'Youth health'; an exhibition of German scientific research; a philatelic exhibit: stamp collection of portraits of famous doctors; and the awarding of the 'Paracelsus Medal', the highest award of the German medical profession, at the Closing Plenary Session which will be preceded by and concluded with orchestral music.

The keynote of all the planning by the German Medical Association is *Friendship through personal contacts.* Every doctor in the world is personally invited to share in this programme by attending the forthcoming meeting of the World Medical Association in West Berlin, Germany.

COMMISSION OF ENQUIRY INTO IONIZING RADIATION

INSPECTIONS

One of the duties of the above Commission is to inspect X-ray installations, not only at hospitals or those used by private medical practitioners (whether specialists or in general practice, dentists or chiropractors), but also non-medical installations such as for industrial, research and for veterinary purposes.

To facilitate the planning of these inspections the Commission requests all owners of equipment producing X-rays to submit details of such equipment to the Secretary, Commission of Enquiry into Ionizing Radiation, Room 411, Merino Buildings, Pretorius Street, Pretoria.

VERENIGINGSNUUS : ASSOCIATION NEWS

TAK ORANJE-VRYSTAATSE GOUDVELDE

Die Afdeling Oranje-Vrystaatse Goudvelde van die Mediese Vereniging van Suid-Afrika, het van die Federale Raad goedgekeuring ontvang om vanaf 1 Januarie 1960 te funksioneer as 'n Tak van die Mediese Vereniging.

Die eerste Jaarvergadering van die nuutgestigde Tak Oranje-Vrystaatse Goudvelde, het plaasgevind te Welkom op 13 Februarie 1960. Ter aanvang van die vergadering is die gekose lede van die Takraad aan die aanwesiges voorgestel. Die Raad is as volg saamgestel:

Dr. F. N. Gillwald	President en verteenwoordiger op die Federale Raad.	
Dr. T. V. Simpson	Vise-president.	
Dr. N. K. Cath	Ere-sekretaris.	
Dr. G. J. Bester	Ere-hulpsekretaris.	
Dr. J. C. Yssel	Ere-tesourier.	
Dr. F. J. Calitz	Virginia	Addisionele lede.
Dr. A. W. Eksteen	Odendaalsrus	
Dr. J. R. Fouche	Henneman	
Dr. P. R. de Wet	Bothaville	

Dr. F. N. Gillwald is op plegtige wyse ingesweer as eerste President van die nuwe Tak deur dr. G. F. C. Troskie, President van die Tak Oranje-Vrystaat en Basoetoland van die Mediese Vereniging van Suid-Afrika. As Afdeling het die Oranje-Vrystaatse Goudvelde onder hierdie Tak geressorteer.

Na sy inlywing het dr. F. N. Gillwald sy Presidentsrede gelewer. Dr. J. H. Struthers, Voorsitter van die Federale Raad, het daarna die woord gevoer. Hy het die gelukwense van die Federale Raad aan die nuwe Tak oorgedra en op boeiende wyse getoon van watter groot belang die Mediese Vereniging vir die mediese professie in Suid-Afrika is.

Dr. G. F. C. Troskie, President van die Tak Oranje-Vrystaat en Basoetoland, het daarna aan die woord gekom. Hy het die nuwe Tak gelukgewens en daarop gewys dat groter verantwoordelikheid deur die nuwe Tak aanvaar moet word vanweë die verhoogde status aan hom toegeken.

Die sprekers is bedank deur dr. F. N. Gillwald, die President van die plaaslike Tak.

Die ontstaan van die Tak Oranje-Vrystaatse Goudvelde van die Mediese Vereniging is die aand op feestelike wyse gevier met 'n dinee. Talle lede van omliggende Takke het die funksie bygewoon, asook verteenwoordigers van Provinsiale en Plaaslike owerhede.

By die geleentheid het as hoofsprekers opgetree, dr. P. F. H. Wagner, President van die Mediese Vereniging van Suid-Afrika en mnr. J. M. Rothman, Provinsiale Sekretaris van die Oranje-Vrystaat.

WORLD LIST OF INTERNATIONAL MEETINGS *(Cont'd)*

Pan-American Association of Otorhinolaryngology, 13th Congress, Brussels and Louvain, Belgium, July 1960. Dr. Louis Chavanne, 9 boulevard de la Croix-Rousse, Lyon, France.

Tenth Annual Meeting of the European League for Mental Health, Edinburgh, beginning of August 1960. Dr. P. Sivadon, Secretary General, Ligue Européenne d'Hygiène Mentale, 11 rue Tronchet, Paris 8, France.

World Federation for Mental Health, 13th Meeting, Edinburgh,

7 - 12 August 1960. 19 Manchester Street, London, W. 1. England.

International Research Seminar on Social and Psychological Aspects of Ageing, San Francisco, early August 1960. Clark Tibbitts, Special Staff on Ageing, US Department of Health, Education and Welfare, Washington 25, D.C., USA. To precede the 5th International Congress of Gerontology in San Francisco, 7 - 12 August 1960.

Fifth International Congress of Gerontology, San Francisco, 7 - 14 August 1960. Louis Kuplan, Executive Secretary, 722 Capital Avenue, Sacramento, California, USA.

Third International Congress of Clinical Chemistry, Edinburgh, 14 - 19 August 1960. Dr. S. C. Frazer, Secretary of Congress Committee, Clinical Laboratory, Royal Infirmary, Edinburgh, Scotland.

Sixth Inter-American Congress of Cardiology, Rio de Janiero, 14 - 20 August 1960. Dr. H. Alquéres, Secretary of Congress, Caixa Postal 1594, Rio de Janiero, Brazil.

Third Australasian Conference on Radiation Biology, Sydney, 15 - 18 August 1960. Dr. Peter Ibery, Convener, c/o Department of Preventive Medicine, University of Sydney, Sydney, N.S.W., Australia.

Third Inter-African Conference on Medical Cooperation, Luanda, Angola, 15 - 24 August 1960(?). Commission for Technical Cooperation in Africa South of the Sahara, Pvt. Mail Bag 2359, Lagos, Nigeria. Precedes 10th Session of World Health Organization, Regional Committee for Africa.

Second International Congress on Ultrasonics in Medicine, Washington, D.C., 20 August 1960. Dr. John H. Aldes, Secretary, American Institute of Ultrasonics in Medicine, 4833 Fountain Avenue, Los Angeles 29, California, USA.

Tenth Scandinavian Physiological Congress, Oslo, 22 - 25 August 1960. Prof. N. Eeg-Larsen, Institute for Nutrition Research, Blindern, Norway.

Third International Congress of Physical Medicine, Washington, D.C., 21 - 26 August 1960. Dr. W. J. Zeiter, Cleveland Clinic, 2020 E. 93rd Street, Cleveland 6, Ohio, USA.

Sixth International Congress of Internal Medicine, Basel, 24 - 27 August 1960. Congress Secretariat, 13 Steinentorstrasse, Basel, Switzerland.

International Congress of Individual Psychology, Vienna, 28 August - 1 September 1960. Dr. W. Spiel, Secretary, Lazarettgasse 14, Vienna 9, Austria.

Sixth International Congress on Diseases of the Chest, Vienna, 28 August - 1 September 1960. Prof. Anton Sattler, Kaiserstrasse 83/87, Vienna, Austria.

International Congress of the Pharamceutical Sciences, 20th, Copenhagen, 28 August - 2 September 1960. Apoteker W. Tønnesen, Bispebjerg Hospital, Copenhagen N.V., Denmark.

International Society for the Welfare of Cripples, 8th World Congress, New York, 28 August - 2 September 1960. Donald V. Wilson, Secretary General, 701 First Avenue, New York 17, N.Y., USA.

First International Congress of Histochemistry and Cytochemistry, Paris, 28 August - 3 September 1960. Dr. R. Wegmann, Secretary General, c/o Laboratoire d'Histochimie, Faculté de Médecine, 45 rue des Saints-Pères, Paris 6e, France.

Tenth International Congress on Rheumatic Diseases, Rome, 28 August - 4 September 1960. Dr. C. Graham, Vice President, International League against Rheumatism, P.O. Box 237, Terminal 'A', Toronto, Ontario, Canada.

European Aeor-nautical Congress, London, 30 August - 2 September 1960. B.E.A. Central Medical Clinic, London Airport, London.

International Association of Laryngectomized Persons, meeting, St. Louis, August 1960. J. L. Ranney, 521 W. 57th Street, New York 7, N.Y., USA.

First International Congress of Nephrology, Geneva and Evian, 1 - 3 September 1960. Prof. R. M. May, 12 rue Cuvier, Paris 5e, France.

Fifth International Congres on Nutrition, Washington, D.C., 1 - 7 September 1960. Dr. Milton O. Lee, General Secretary, 9650 Wisconsin Avenue, N.W., Washington 14, D.C., USA.

Scientific Council for Africa South of the Sahara, 11th Session, Cape Town, 1 - 10 September 1960. Pvt. Mail Bag 2359, Lagos, Nigeria.

International Congress of Prophylactic Medicine and Social Hygiene, Innsbruck, 3 - 6 September 1960. Dr. A. Rottmann, Liechtensteinstrasse 32/4, Vienna IX, Austria.

Tenth International Congress of Cell Biology, Paris, 4 - 9 September 1960. Prof. M. Chevremont, 20 rue de Pitteurs, Liège, Belgium.

International Society of Haematology, 8th Congress, Tokyo, 4 - 10 September 1960. Secretariat, c/o Japan Science Council, Ueno Park, Tokyo, Japan.

International Society of Orthopaedic Surgery and Traumatology, 8th Congress, New York, 4 - 10 September 1960. Dr. Lee Ramsay Straub, 535 E. 70th Street, New York 21, N.Y., USA.

Second World Congress of Anaesthesiologists, Toronto, 4 - 10 September 1960. Dr. R. A. Gordon, 516 Medical Arts Building, Toronto 5, Ontario, Canada.

Society for Biological Rhythm, 7th Conference, Siena, Italy, 5 - 7 September 1960. Dr. A. Sollberger, Department of Anatomy, Karolinska Institutet, Solnavägen 1, Stockholm 60, Sweden.

Fifth International Symposium on the Microbiology of Non-Alcoholic Beverages, excluding Milk, and some other Perishable, Foods Packed in Hermetically Sealed Containers, Evian, France 5 - 10 September 1960. Dr. D. D. A. Mossel, Secretary, Food Microbiology and Hygiene Section, International Association of Microbiological Societies, c/o Central Institute for Nutrition Research, Catherijnesingel 61, Utrecht, The Netherlands.

Fourth International Criminological Congress, The Hague, 5 - 12 September 1960. M. E. Lamers, Secretary General, Burgemeester de Monchyplein 14, The Hague, The Netherlands.

International Congress of Embryology, possibly Milan, first week September 1960. Prof. S. Ranzi, Secretary General, Istituto di Zoologia, Via Celeria 10, Milan, Italy.

European Society of Cardiovascular Surgery, 9th Congress, Barcelona, September 1960. Prof. G. Arnulf, Secretary General, 1 place Gailleton, Lyon, France.

Fourth International Symposium on Venereal Diseases and the Treponematoses, Warsaw, September 1960. Dr. Pierre Durel, Médecin Chef du Dispensaire de Salubrité, Hôpital Saint-Lazare, 9 cour de la Ferme St.-Lazare, Paris 10e, France.

International Hospital Federation, study tour, USA, 6 - 16 September 1960. Capt. J. E. Stone, Secretary General, International Hospital Federation, 34 King Street, London, E.C. 2, England. Expected to cover hospitals in Washington, Baltimore, Philadelphia, New York, New Haven, and Boston.

Medical Women's International Association, Council Meeting, Baden-Baden, Germany, 7 - 10 September 1960. Dr. Vera Peterson, Secretary-General, 29 route de Malagnou, Geneva, Switzerland.

International Congress of the History of Medicine, 17th, Athens and Cos, Greece, 8 - 18 September 1960. Dr. S. Oeconomos, Dean, Faculty of Medicine, National and Capodistrian University of Athens, Odos Panepistimiou, Athens, Greece.

Ninth International Congress of Broncho-oesophagology, Venice, 8 or 10 September 1960. Dr. Chevalier L. Jackson, Secretary General, 3401 N. Broad Street, Philadelphia 40, Pennsylvania, USA.

Seventh International Congress of Hydatid Disease, Rome, September 1960. Prof. B. Kourias, 11 Héroudou Attikou, Croix Rouge Hellénique, Athens, Greece.

International Conference on Trichinellosis, Warsaw, 12 - 13 September 1960. Dr. Zbigniew Kozar, Zaklad Parazytologii P.A.N., Pasteura 3, Poland.

International Society of Blood Transfusion, 8th Congress, Tokyo, 12 - 14 September 1960. Dr. Seizo Murakami, Secretary General, c/o Blood Transfusion Research Laboratory, Japanese Red Cross Society, Tokyo, Japan.

Third International Congress on Cybernetics, Namur, Belgium, 12 - 16 September 1960. International Association for Cybernetics, 13 rue Basse-Marcelle, Namur, Belgium.

World Federation of Occupational Therapists, Council Meeting, Sydney, 12 - 17 September 1960. Mrs. M. Thelma Cardwell, Hon. Secretary/Treasurer, 963 Avenue Road, Toronto 7, Ontario, Canada.

Scientific Council for Africa South of the Sahara, Specialists Meeting on the Treatment of Water, Pretoria, 12 - 17 September 1960. Pvt. Mail Bag 2359, Lagos, Nigeria.

International Medico-athletic Federation, 13th Congress, Vienna,

14 - 18 September 1960. Prof. L. Prokop, Verband Österreichischer Sportärzte, Sensegasse 3, Vienna 9, Austria.

International Union of Biological Sciences, Section of Embryology, General Assembly, Pallanza, Italy, 15 - 20 September 1960. Prof. F. E. Lehmann, Section Secretary, Kuhnweg 10, Bern, Switzerland.

First European Congress of Child Psychiatry, Paris, 16 - 20 September 1960. Prof. D. J. Duché, Secretary General, Pavillion Clérambault, Hôpital de la Salpétrière, 47 Boulevard de l'Hôpital, Paris, France.

European Congress on Infantile Neuropsychiatry, Paris, 16 - 21 September 1960. Dr. G. Belaubre, 14 rue Drouot, Paris, France.

World Medical Association, 14th General Assembly, Berlin, Dr. Louis H. Bauer, Secretary General, 10 Columbus Circle, New York 19, N.Y., USA.

Second International Meeting of Forensic Pathology, New York, 18 - 21 September 1960. Dr. Milton Helpern, 55 East End Avenue, New York 28, N.Y., USA.

Third European Congress of Cardiology, Rome, 18 - 25 September 1960. Dr. V. Puddu, Secretary General, Organizing Committee, c/o Clinica Medica, Università-Policlinico, Rome, Italy.

Pan-Pacific Surgical Association, 8th Congress, Honolulu, 27 September - 5 October 1960. Dr. F. J. Pinkerton, Director General, 230 Alexander Young Building, Suite 230, Honolulu 13, T.H.

International Congress on Medical Photography and Cinematography, Cologne, 27 - 30 September 1960. Deutsche Gesellschaft für Photographie, Neumarkt 49, Cologne, Germany.

International Society of Audiology, 5th Congress, Bonn, 28 September - 1 October 1960. Prof. Langenbeck, Secretary General, Baumschulallee 29, Bonn, Germany.

International Dermatological Committee, Meeting, Geneva, September 1960. Dr. Sven Hellerström, Secretary General, c/o Dermatologiska Kliniken, Karolinska Sjukhuset, Stockholm 60, Sweden. (International League of Dermatological Societies.)

World Health Organization, Regional Committee for Africa, 10th Session, Accra, September 1960. Boîte Postale 6, Brazzaville, Congo Republic.

World Health Organization, Regional Committee for Europe, Copenhagen, September 1960. 8 Scherfigsvej, Copenhagen, Denmark.

International Confederation of Midwives, Congress, Rome, 2 - 7 October 1960. Royal College of Midwives, 15 Mansfield Street, London, W. 1, England.

Seventh Pan-American Congress of Gastro-enterology, Santiago, Chile, 23 - 29 October 1960. Dr. Ricardo Katz, Secretary General, c/o Servicio de Medicina, Hospital del Salvador, Casilia 70-D, Santiago, Chile.

Congress of Neurological Surgeons, Meetings, Chicago, 26 - 30 October 1960. Dr. R. L. Desaussure, 101 B 20 S. Dudley Street, Memphis 3, Tennessee, USA.

International Federation of Surgical Colleges, Meeting, London, October 1960. Sir Harry Platt, 14 Rusholme Gardens, Platt Lane, Manchester 14, England.

Pan-American Congress of Pharmacy and Biochemistry, 5th, Santiago, Chile, 12 - 19 November 1960. Victor M. Cereceda A., Casilla 1136, Santiago, Chile.

Second Latino-American Congress of Neurology, Santiago de Chile, 27 November - 1 December 1960. Prof. Rodolfo Nunez, Secretary General, Almirante Montt 485, Dept. 11, Santiago de Chile, Chile.

IN DIE VERBYGAAN : PASSING EVENTS

South African Society of Obstetricians and Gynaecologists (M.A.S.A.), Cape Western Sub-Group. A meeting of this Group will be held on Friday 8 April at 8.15 p.m. in the Obstetrics Lecture Theatre, Medical School, Observatory, Cape. Dr. W. H. Meffley, who is a Fellow of the International and of the American Cancer Society and is attached to the Toledo Clinic, Ohio, USA, will deliver an address on 'Personal experiences in the treatment of cancer of the cervix'. All members of the Association are invited to attend this meeting.

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Southern African Cardiac Society. It has now been announced that, contrary to the information published in the *Journal* on 26 March (**34**, 265), a South African Cardiac Symposium will be held in Cape Town in November 1960 and not in Johannesburg in July. Further details will be announced as soon as they become available.

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The National Cancer Association of South Africa announces that a *limited sum of money* is available during the calendar year 1960, for registered medical practitioners who may wish to proceed overseas to undertake postgraduate study relating to cancer. Application forms and full particulars may be obtained from the National Secretary, P.O. Box 2000, Johannesburg. The closing date for receipt of applications will be 30 April 1960.

* * *

South African Institute for Medical Research, Johannesburg, Staff Scientific Meeting. The next meeting will be held on Monday 11 April at 5.10 p.m. in the Institute Lecture Theatre. Dr. A. J. Orenstein will speak on 'Highlights in the history of yellow fever'.

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Lede word daaraan herinner dat hulle die Sekretaris van die Mediese Vereniging van Suid-Afrika, Posbus 643, Kaapstad, sowel as die Registrateur van die Suid-Afrikaanse Geneeskundige en Tandheelkundige Raad, Posbus 205, Pretoria, moet verwittig van enige adresverandering. Versuim hiervan beteken dat die *Tydskrif* nie afgelewer kan word nie. Dit het betrekking op lede wat oorsee gaan sowel as dié wat binne die Unie van adres verander.

* * *

Suid-Afrikaanse Akademie vir Wetenskap en Kuns. 'n Goedbygewoonde vergadering van die Tak Simon van der Stel van die Akademie is op Donderdagaand 17 Maart in die Groot-lesingsaal, Kliniese-gebou, Karl Bremer-Hospitaal, Bellville, Kaap, gehou. Dr. O. T. de Villiers, van die Universiteit van Stellenbosch, het die vergadering toegespreek oor ‚Kunsmatige bevrugting by diere'. 'n Lewendige en interessante bepreking het gevolg oor vergelykbare wetenskaplike vraagstukke van kunsmatige bevrugting by die mens.

* * *

Dr. Bert Kramer, M.B., B.Ch. (Rand), D.M.R.D. (Lond.), diagnostic radiologist, who has been in the radiological services of the Natal Provincial Administration for the past 6 years, has now taken over the Durban practice and rooms of the late Dr. J. T. McGinn at Merle Chambers (near A.A. House), 529 Smith Street. Telephones: Rooms 22940, 25667; residence 33166; emergencies 63737.

* * *

Refresher Course in Nephrology, Paris, 2 - 4 May 1960. This Course is being organized by Prof. J. Hamburger, Head of the Metabolic Diseases Clinic of the Hôpital Necker and the Université de Paris. The number of participants is limited and it is advised that anyone wishing to join this Course should write to Dr. J. Crosnier, Hôpital Necker, 149 rue de Sèvres, Paris 15e, as soon as possible. The fee for this Course is 6.00 francs. Among the subjects to be dealt with by the Course are 'The kidney and calcium', 'The hypokalaemic kidney', etc.

* * *

Suid-Afrikaanse Geneeskundige en Tandheelkundige Raad. By geleentheid van die onlangse halfjaarlikse sitting in Kaapstad van die Raad, is 'n aangename dinee gereël by die Vineyard Hotel, Nuweland, op 22 Maart, waar die lede van die Raad en 'n aantal gaste en eregaste deur die President van die Raad, prof. S. F. Oosthuizen en mev. Oosthuizen ontvang is.

Die eregaste van die aand was die Eerste Minister, Sy Edele dr. H. F. Verwoerd en mev. Verwoerd. Ook aanwesig was die Minister van Gesondheid, Sy Edele Dr. A. Hertzog; prof. H. B. Thom, Rektor van die Universiteit van Stellenbosch en mev. Thom; mnr. J. P. Duminy, Prinsipaal van die Universiteit van Kaapstad, en mev. Duminy, benewens ander vooraanstaande gaste.

In sy verwelkoming aan die Eerste Minister het prof. Oosthuizen gesê dat dit die eerste keer in die geskiedenis van die Geneeskundige en Tandheelkundige Raad is dat die Raad met

die teenwoordigheid van 'n Eerste Minister vereer word. Dr. Verwoerd het in sy antwoord melding gemaak van die groot rol wat die mediese professie in die samelewing speel en hy het ook met waardering gepraat van die rol wat die Raad in die mediese beroepslewe speel. Dr. Verwoerd het veral die behoefte aan 'n omvangryke stelsel van voorbehoedende medisyne geskets en verwys na die noodsaaklike navorsing wat daarmee moet saamgaan. Onder meer het hy gesê dat die Regering met graagte sy steun sal gee aan die opbou van 'n doeltreffende stelsel van voorbehoedende medisyne in ons land.

BRIEWERUBRIEK : CORRESPONDENCE

MENTAL HEALTH SERVICES AND THE ASSOCIATION

To the Editor: The deplorable state of the mental health services in South Africa, recognized for long by the medical profession, has now become headline news in the daily press, and it is clear that a critical situation has developed. To meet the situation at various levels, policies are taking shape which have in prospect a mental health service capable of meeting the country's needs. There is, for example, the 'Blue print for mental health services in South Africa', which is being prepared by the National Council for Mental Health; the programme prepared by the South African Medical and Dental Council which includes the introduction of more instruction in psychiatry into the curricula of our medical schools; and the great contribution of the full-time personnel in the Mental Health Service.

In writing this letter it is not my intention to detract from the merits of these valuable contributions; rather to underline them and to emphasize the time factor in their materialization.

It is not easy to project policies and plans, no matter how excellent they are and how imperative the need for them, into a situation of emergency. I feel, however, that the Medical Association should make an attempt to contribute its share towards the solution of some of the problems regarding mental health services.

The role of the general practitioner in the field of mental health has recently been emphasized both in the United States and in Great Britain. In both these countries the services of the general practitioner are being linked up more and more with the work done in mental hospitals and other psychiatric institutions; and it is to the rapid development of services of this nature in this country that we must look for some amelioration of the problem of personnel which lies at the root of our national problem in this field.

It seems to me that the time has arrived for the Medical Association of South Africa to offer its services to the Commissioner for Mental Hygiene, and to put forward a considered scheme to meet the immediate situation whereby willing general practitioners could be brought into the service of the present organization. There must be many general practitioners who would be willing to take part in some scheme whereby the knowledge and experience of mental hospital and private psychiatrists could be brought within their reach, and thus enable them to treat with some confidence the early stages of mental illness.

It is at this level that so much valuable work awaits performance, and the organization of a suitable scheme does not appear to me to be an overwhelming difficulty. It should be possible, for example, to organize a scheme on a sessional basis at those centres where mental hospitals are established, which will make it possible for interested general practitioners to spend a portion of their time at the hospital for the practical study of diagnosis and treatment, under full-time personnel. Courses of lectures by specialists on the principles of diagnosis and treatment can then be arranged as part of the scheme. In this way almost immediate benefits are possible even as they have appeared in the United States and Britain.

A service such as this has the merit of starting at the level of the general practitioner, who has first-hand knowledge of the special circumstances of his patients and his patients' families, and is first to come across signs of mental disturbance. Sustained by his sessional attendance at the mental hospital, he would soon be in a position to arrange for early treatment of cases of mental disturbance that might well alleviate cases which, in ordinary circumstances, would become subjects for admission to a mental hospital.

It is obvious that sessional attendances at a mental hospital, and the time devoted to the study of the subject under practising specialists, should not go unremunerated. Indeed, the general practitioner should receive adequate remuneration in order to ensure the success of a scheme which is of national importance.

The point I want to make is that to meet the existing and urgent situation in this field the Medical Association of South Africa should make a concerted effort (and even approach the Minister of Health for his assistance if need be) in an attempt to create a service in which the abilities of the country's general practitioners might be used immediately to alleviate the enormous pressure upon our mental hospitals.

H. Grant-Whyte

232 King George V Avenue
Durban
12 March 1960

NEGOTIATIONS OVER MEDICAL SCHEMES

To the Editor: It is indeed gratifying to read Dr. Lawrance's paternal advice, in the issue of the *Journal*[1] for 12 March, particularly with regard to his final paragraph.

However, occasionally when difficult problems arise, our councillors slip up. May I quote two examples.

1. Some years ago there was a rule in the Tariff Book that when more than one patient from the same family was seen with the same disease at the same consultation or visit, the fee charged should be the normal consulting or visiting fee for the first patient and 50% for the remainder. Following representations over the years it was suggested that a fair arrangement would be that at consultations the fee should be the normal fee for all patients, but at visits the fee should be the normal visiting fee for the first patient and normal consultation fees for the remainder; the following has been achieved in this difficult problem: (*a*) The words 'the same disease' have been deleted, (*b*) for all consultations in the rooms normal consultation fees are charged, and (*c*) multiple patients at the home are charged the normal visiting fee for the first patient, and 50% for subsequent patients.

As a result, when a mother comes to the rooms with her two children, the doctor's charges in Johannesburg are 15s. three times. But when the doctor visits the house he must charge 20s. for the mother and 10s. for each child. So when a mother calls the doctor she saves time, transport and 5s.; which our Central Committee for Contract Practice probably considers a good thing.

Of course, this ruling may have been altered now, the original recommendations having been made more than a year (4 meetings) ago.

2. We have all known that momentous decisions regarding our relationship with commercial insurance companies were to be made at the Federal Council meeting of 3 - 5 March. We have gleaned certain details from the various newspapers—the Durban *Sunday Tribune* of 13 March published what appeared to be the actual resolutions taken. The first factual information appeared in the SANSOM chairman's report delivered in Cape Town on the afternoon of 14 March and published in Johannesburg in the advertisement columns of the *Star* on the day of delivery of the report. Then in the *Star* of 15 March we read there has been a press conference in Cape Town at which our Secretary explained the whole thing! (Incidentally he is alleged to have stated that 'while the companies would not make any direct profit they hoped to gain extra business in other fields through their schemes'—this statement has been vigorously denied, or glossed over, or minimized by many of our councillors, and it is interesting to read it now from the Secretary.)

I feel that the information should have been circulated immediately to all members of the Association (at least as rapidly as SANSOM's report) before a press conference was held.

Perhaps these two instances, and very many others, make one doubt the accuracy and justice of Dr. Lawrance's beautifully composed eulogy of those members of Federal Council who hold views closely akin to his.

W. A. M. Miller

2 Admirals Court
Tyrwhitt Avenue
Rosebank, Johannesburg
22 March 1960

1. Correspondence (1960): S. Afr. Med. J., 34, 228.